

48122/B



A

COMPARATIVE HISTORY

OF THE

Increase and Decrease of MANKIND in *England,*

A N D

Mancheſter

Several Countries Abroad,

According to the different *Soils, Situations, Buſineſs of Life,* Uſe of the
NON-NATURALS, &c. faithfully collected from, and attested by,
above Three Hundred Vouchers, and many of them for a long *Course*
of Years, in two different Periods.

To which is added,

A SYLLABUS of the general States of HEALTH, AIR, SEASONS,
and FOOD for the laſt Three Hundred Years;

AND ALSO

A METEOROLOGICAL DISCOURSE.

By THOMAS SHORT, M. D.

L O N D O N :

Printed for W. NICOLL, in St. *Paul's* Church-Yard; and C. ETHER-
INGTON, oppoſite the North Door of *All Saints* Church, in the *Pave-*
ment, York. 1767.

COMPARATIVE ANATOMY

By J. E. S. PEARSON, M.D., F.R.C.S.,
Fellow of the Royal Society, and Lecturer in
Comparative Anatomy at the University of London.

Second Edition, revised and enlarged.

Published by the Cambridge University Press,
The Edinburgh Building, Shaftesbury Road,
Cambridge, and 477 Williamstown Road,
Port Melbourne, Victoria, Australia.

Printed by the Cambridge University Press,
The Edinburgh Building, Shaftesbury Road,
Cambridge.

First published in 1904.
This edition published in 1924.

ALL RIGHTS RESERVED.



As I am obliged gratefully to acknowledge the Favour of the following Subscribers, and several others who have bespoke Copies for encouraging the Work; so I propose, if any few Copies remain, that none of them will be sold under Half a Guinea each, and those only by Mr. Nicoll, Bookseller in St. Paul's Church-Yard, London.—If there should be a Call for a second Edition, it will be with several Additions, which will be printed by themselves, and given gratis to the Subscribers; without which there will be no new Edition.

The first Number after the Subscribers Names is for the Comparative History; the second, for Mineral Waters.

SUBSCRIBERS NAMES.

A				Mr Charles Beard ——— I I			
M	Mr William Adamson	-	I O	Mr Josiah Beckwith, Attorney	}	I O	
	Mr Henry Aldcock	—	I I	at Law, Rotherham			
	John Aldcock, M. D. Warwick	I	I	Mr Stephen Bedford	———	I I	
	Mr Stephen Aldridge	-	I I	Mr Benridge	———	I I	
	Mr Thomas Allen, of Sheffield	I	O	Mr Ed. Bellamy, Apothecary	}	I I	
	Mr Thomas Alexander	-	I I	Rotherham			
	Mr John Allot, of Sheffield	—	I O	Mr William Birks, of Sheffield	I O		
	Mr David Anderson	———	I I	James Birch, Esq; Coventry	—	I I	
	Mr David Andrews	———	I I	Mr John Bower	—	I O	
	Mr John Arden, Professor of	}	I I	Mr Nicholas Boyd	—	I I	
Natural and Experimental	——— Boulton, Esq; Birmingham			I I			
Philosophy	Alexander Bower, of Kincar-			}	I I		
Mr John Armstrong	———	I I	dine, Forfar, Esq;				
Mr Richard Atchison	———	I I	Mr William Bradley	—	I I		
B				Mr Silvester Bradford	———	I I	
Rev. Mr Baines, Sheffield	—	I I	Rev. Mr Tho. Bright, Ecclesfield	I I			
Mr Alexander Bailey	———	I O	Mr Wm. Brightmore, Sheffield	I I			
George Baker, M. D.	———	I I	Rev. Mr Benjamin Broadbent	-	I O		
Mr John Baker	———	I I	Mr Roger Brooks	———	I I		
Mr Joseph Baker	———	I I	Mr Stephen Brownridge	———	I I		
Thomas Barker, Esq;	———	I O	Mr John Broom, jun. Kidder-	}	I O		
Mr Richard Barker	———	I O	minster				
Rev. Dr Balguy	———	I I	Mr Zachariah Brown	———	I I		
Mr Ebenezer Barclay	———	I I	Mr George Bruckfield	———	O I		
Mr Adam Barton	———	I I	Mr Roger Brunt	———	I I		
Mr W. Barnsley, of Rotherham	I I	I I	Samuel Buck, Esq; Rotherham	I I			
			Mr Luke Butterson	———	I I		

Mr P. P. Burdett — —	I	I	Mr David Donaldson — —	I	I
William Butter, M. D. Derby	I	I	Silvester Douglas, M. D. —	I	I
C			Presbytery Library, Dumfries -	I	O
Right Hon. Earl of Carberry -	I	I	Book Society, ditto — —	I	O
Rev. Mr John Carver — —	I	I	Mr David Duncan — —	I	I
Mr James Calton — —	I	I	Mr Adam Durham — —	I	I
Mr William Campbell - —	I	O	E		
Mr John Cantrill, Apotheca- }	O	I	Right Hon. Earl of Effingham	6	6
ry, Derby }			Mr John Eyre — —	I	O
Mr Michael Cargill — —	I	I	F		
George Clark, Esq; Edinburgh	I	I	Hon. Mrs Finch — —	I	I
Mr Clark, of Haugh — —	I	O	Hon. Savile Finch, Esq; — —	I	I
Jos. Clay, Esq; Sheffield — —	I	I	Rev. Mr James Falkner, of }	I	I
Mr William Cleve, Surgeon, }	I	I	Litchfield }		
Coventry }			Mr Wm. Favell, sen. Rotherham	I	I
Mr Anthony Cloudsley - —	I	I	Richard Fenton, Esq; — —	2	2
Josias Cockshutt, Esq; — —	I	I	Mr David Fenton — —	I	I
Mr John Cockshutt — —	I	O	Mr John Fenton, Apoth. Sheff.	I	I
Josiah Codiscent, Esq; — —	I	I	Mr William Fisher — —	I	I
Mr William Cooper, Apothe- }	O	I	Mr John Foljambe, Attorney, }	I	O
cary, Sheffield }			Rotherham }		
Mr Ralph Crosby — —	I	I	Mr Forbes, Surgeon, Chelsea -	3	3
Alex. Copland, of Colieston, Esq;	I	I	— Fotheringham, of Pow- }	I	I
Mr William Corrie, of Dumfries	I	I	rie, Forfar, Esq; }		
Mr John Cutforthay, Apothe- }	I	I	G		
cary, Rotherham }			Right Hon. Lord Gray — —	I	I
D			Mr Stephen Gardiner — —	I	I
Right Hon. Earl of Derby — —	I	I	Maxwell Garthshore, M. D. }	I	I
Sir Wm. Duncan, M. D. London	I	I	London }		
— Darwyn, M. D. Litchfield	I	I	Mr Bernard Gary, Apothecary, }	I	I
Mr Samuel Dawson, Atorney, }	I	I	Warwick }		
Sheffield }			Mr Gilbert Gibson — —	I	O
Mr Ezra Davidson — —	I	I	Ebe. Gilchrist, M. D. Dumfries	I	I
Mr Nicholas Davidson — —	I	I	Mr James Gilchrist, ditto —	I	I
John Dealtry, M. D. York —	6	6	Mr John Girdam, Bubnell —	I	O
Mr Christopher Denison — —	I	I	Mr Henry Glas — —	I	I
Mr James Dickins — —	O	I	Mr Henry Goodman — —	I	I
Mr Richard Dickins — —	I	I	Mr David Goodwin — —	I	I
Mr Stephen Dickinson — —	I	I	Gilbert Gordon, Esq; Collec- }	I	O
Mr William Dixon — —	I	I	tor of the Excise, Dumfries }		
Mr Gilb. Dixon, Attorney, Sheff.	I	O	Mr James Graham, Druggist, }	I	I
Alvery Doddsley, Esq; — —	I	I	Doncaster }		
Mr Richard Donald — —	I	I	Mr		

V

Mr

SUBSCRIBERS NAMES.

vii

Mr Hugh Roberts	—	—	I	I	Thomas Stacey, Esq;	—	I	I
Mr Lewis Robertson	—	—	I	I	Mr William Stanley, Rotherham	—	I	I
Mr Henry Robins	—	—	I	I	Jonathan Staniforth, of Fir-	}	I	I
Mr Alexander Roe	—	—	I	I	beck, Esq;	}	I	I
Mr John Roose, of Rotherham	—	—	I	I	Mr Jos. Staniforth	—	I	I
Mr Jonathan Rogers	—	—	I	I	Thomas Stead, Esq; Sheffield -	—	I	I
Mr Ed. Rufton, of Birmingham	—	—	I	I	Mr Henry Stephenson	—	I	I
Mr John Ruffel, of Rotherham	—	—	I	O	Robert Stewart, M. D. Wol-	}	I	I
Mr Godfrey Ruffel	—	—	I	I	verhampton	}	I	I
— Ruffel, M. D. London	—	—	I	I	Mr Moses Stringer	—	I	I
John Rutty, M. D. Dublin	—	6	I	I	J. S.	—	50	12

S

Right Hon. Earl of Selkirk	—	—	I	I	Mr John Taylor	—	I	I
Right Hon. Lord Scarfdale	—	3	3	I	Mr Robert Taylor	—	I	I
Sir Alexander Strachan, Bart. -	—	—	I	I	Mr Stephen Thompson	—	I	I
Mr George Sandford	—	—	I	I	Mr Henry Thinn	—	I	I
Mr Ambrose Savile	—	—	I	I	Mr Anth. Tipington, Swannock	—	I	I
Mr Scarfbrick	—	—	I	I	Sam. Tooker, Esq; Rotherham	—	I	I
Mr Joseph Scholey, Rotherham	—	—	I	I	Mrs Tooker, ditto	—	I	I
Mr Henry Semple	—	—	I	O	Mr Thomas Towndrow, Apo-	}	I	I
John Shirtliff, of Whitley-	}	—	I	I	thecary, Burton	}	I	I
Hall, Esq;	}	—	I	I	Mr George Towing, Sheffield	—	I	I
Samuel Shore, of Norton, Esq;	—	—	I	I	Mr William Truelove	—	I	I
George Simpson, of Inverigh-	}	—	I	I	Mr William Trueman	—	I	I
ty, Forfar, Esq;	}	—	I	I	Mr Ambrose Turner	—	I	I
Robert Simpson, M.D. Coventry	—	—	I	I	Mr Samuel Turner	—	I	I
Dr Stephen Simpson, Wentworth	—	—	I	I				
William Sitwell, Esq; London -	—	—	I	I				
Mr Thomas Slater, Apothe-	}	—	I	I				
cary, Chesterfield	}	—	I	I				
Wm. Small, M. D. Birmingham	—	—	I	I				
Mr Samuel Small	—	—	I	I				
— Smith, M. D. Doncaster	—	—	I	I				
Mr John Smith, Surgeon, Up-	}	—	I	O				
pingham	}	—	I	O				
Mr John South	—	—	I	I				
John Sparrow, Esq; Wincabank	—	—	I	I				
William Spencer, Esq; Bram-	}	—	I	I				
ley-Grainge	}	—	I	I				
Mr Griffin Spencer, Apothe-	}	—	I	I				
cary, Alfreton	}	—	I	I				
Mr Hugh Spooner, Sheffield -	—	—	I	I				
Mr Aaron Springfield	—	—	I	I				
Rev. Dr Stanley, of Winwick -	—	—	I	I				

W

Right Hon. Earl of Warwick -	O	I
Mr Henry Waller	—	I
— Walker, M. D. Newark -	—	I
Rev. Dr Walker, Moffat	—	I
Mr Samuel Walker, Rotherham	—	I
Mr Edward Waring, Mathe-	}	I
matical Professor	}	I
Rev. Mr Robert Waterhouse,	}	I
Sheffield	}	I
Mr Watson, Surgeon, Wath -	—	I
Mr David Watson	—	I
Mr Jos. Watts	—	I
Mr David Westley	—	I
Mr George Weale, Surgeon,	}	I
Warwick	}	I
Rev. Mr W. Whatton, Warwick	—	I

Mr

P R E F A C E.

IF other Histories are entertaining, instructive, and useful, surely such as immediately relate to the Human Species cannot be unacceptable or disagreeable; especially when they point out the Places, Situations, Ways, Businesses, Climates, and Countries fittest for preserving the Health, prolonging the Life, sharpening the Genius, ripening the Judgement, and fitting the Body for Action; these render life useful, comfortable, and desirable, and, at the same Time, the People more prolific, healthy, and robust; so that the Safety, Defence, Establishment, and Continuance of a Nation, and their Laws, Liberties, Rights, and Privileges depend on these. Now no proper Estimate can possibly be made of the several Degrees of Health, Longevity, and Increase of different Places, without just Registers of their Births, Marriages, and Funerals; but even where these could be had, such Observations have mostly been made in, and confined to a few Cities or great Towns, tho' such are mostly found to be Golgothas, or Places of the Waste and Destruction of Mankind, but seldom of their Increase, and often least prolific: And therefore are generally the most improper Gauges to ascertain the true Increase and Longevity of the People. Tho' the Air, in Part, may be blameable, yet the Vices, Intemperance, Irregularities, and Luxury of the Inhabitants are mostly so in general; as appears from the greater Health, longer Life, Strength, Hardiness, and Fruitfulness in the Neighbourhood at one or a few Miles Distance; and from the Lives of those who come out of the Country to settle, and their Children, if temperate and sober, tho' all live in the same Air. This is further manifested from the Registers of the same Places in former Periods, wherein the Births exceeded the Burials more than at present. But the Proof of this would appear more clearly, would the Government send out an Order that the Clergy of all Denominations in England should send in a faithful Extract of all the Births, Marriages, and Burials in each Parish every twenty Years, from the Beginning of their Registers to this Time. Nor need the Numbers of the several Dissenters in England be any Hindrance to this; for if there have been none, a Search for them is needless; if there is, or has been any considerable Body of them, there are Methods hereafter given to find out pretty near their Number, if the Registers have been faithfully kept in sundry Periods.

Former Writers on Bills of Mortality have not sufficiently shewn the Necessity and Usefulness of publishing the Numbers of Marriages in their Bills; nor given us the different Degrees of Mortality in Cities, Towns, and Countries; nor the probable Causes of the greater Waste of Mankind in some Places more than others; nor given us Methods how to ascertain the Number of Families and Souls in Towns or Country Parishes; nor of the Exports, Emigrants, or Imports, Increase or Decrease of People in sundry Places; nor pointed out the Necessity and Usefulness of publishing the Number of Marriages, as well as of Births and Burials; nor the interesting Effects of Virtue and Vice in any Place: Without these Things many valuable Remarks on Bills of Mortality are lost. Nor will a short Syllabus of the most remarkable Changes of Air, Weather, Seasons, and Food, for a Series of Years, be useless; without which, Observations on the Bills of Mortality would too often seem a meer Narrative of Effects without considering their Causes. But if these Particulars were properly examined and published, they would make studying Bills of Mortality more than an idle, speculative Amusement, as the same Causes generally produce some like Effects, and therefore may help us to form better Ideas of the Consequences to be expected from them.

A due Attention to some of the following Observations (to which others may be added) may be at this Time of public Service, as we are a free, flourishing Nation, possessed of greater Power and Dominion than ever our Ancestors enjoyed, and by exerting a constant watchful Care at home, and in our Colonies and Plantations, to encourage every Thing that may promote the Health and Prosperity, the Support and lawful Increase of British Subjects and Allies, and thereby lay a sure Foundation for such Naval Power and Military Force as, by Divine Assistance, may enable us, in a just Cause, to cope with our most envious or perfidious Enemies, and transmit our Laws, Liberties, and Possessions secure and undiminished to the latest Generation.

The following Account, taken from a marginal Note in a Sermon lately printed at New-England, by the Rev. Mr. Ezra Stiles, before a Convention of the Clergy at Bristol in Rhode-Island, April 23, 1760, will throw a greater Light on the Point, and shew more clearly the quick Increase of that Colony, than any Thing I have yet met with upon that Subject, and must highly gratify the Curious, as very few Copies of that Sermon are in England.

“ In new-settled Countries the transplanted Colonies, by an established Law of Nature, in a good Climate, do increase to a certain patril Maternity; then they begin to decline. At the beginning of this Increase, the
Period

Period of Doubling is very short, and the Augmentation rapid. Afterward, the Period of Doubling is extended, till it gradually ceaseth; and is succeeded with a Diminution slow at first, but rapid at last. The Period of patril Maturity, as well as of patril Doubling, doubtless in some Measure corresponds to the Nature of the Climate: The former, in the Climate of *New-England*, may have been about 1000 or 1200 Years; the latter, 20 or 25 Years. The Period of rapid patril Doubling in 25 Years may reach it's Akme in one Third of the Term requisite to the final Akme of Increase. The Ratio of patril Doubling continues equable for 3 or 400 Years; when this Ratio, in Consequence of another Law of Nature, begins at once to be greatly extended. Posterity alone can more accurately ascertain these Things. If we look into History, we may perhaps be inclined to judge the Period of patril Maturity about 800 or 1000 Years, perhaps more than less. The 70 Souls, which sprang from *Jacob's* Loins, when transplanted into *Egypt*, grew and multiplied, in about 215 Years, to 603,550 sensible Men of 20 Years old and upwards, exclusive of the *Levites*: Which, considering the young Men under 20 Years, may imply above 3,000,000 Souls, an Increase on 70 Souls only in 215 Years. It is true, this public Census was made above a Year after the *Exodus*; but we are given to understand, that there was no Increase in the Wilderness. This is an unparalleled Increase, the Period of doubling being about 14 Years.

“ *New-England* has advanced 120 Years in rapid Increase, the Term of Doubling being 20, or, according to *Dr. Franklin*, 25 Years. As this is much slower than the Increase of *Israel*, the Period of rapid Increase, as distinguished from the ultimate Period of patril Increase, may be longer in the Proportion of 14 to 25, or a Ratio formed of these Numbers. If *Israel* reached the first in 215 Years, we may reach it in 384; of which 120 being already elapsed this present Year 1760, above 160 Years of rapid Increase yet remain; by which Time, thro' the Blessing of Heaven, we in the Province of *New-England* may become many Millions.

“ The Increase of the maritime Towns is not equal to that of the inland ones. Tho' the Period of Doubling for the whole Colony is 25 Years, now that the maritime Towns make so great a Proportion of the Inhabitants, yet the Period is different for different Parts of the Colony. While on the Sea-Coast it is above 25 Years, yet within Land it is 20 and 15.

“ In the four Governments of *New-England* are about 530 congregational Churches. In 1650 there were about 36 Churches. In 1696 there were but 130. And being, *A. D.* 1760, increased to 530, the Proportion of Doubling is once in 30 Years.

“ Four

“ Four thousand *British* Planters settled *New-England*, and in 120 Years their Posterity are increased to 500,000 Souls.

“ There are at this present Year 1760 in *New-England*,

Episcopalians	—	11,600
Quakers	—	16,000
Baptists	—	22,000
Congregationalists		440,000

“ Their respective Increase in a Century from this Time, supposing them to double once in 25 Years.

	Episcopal.	Quak.	Bapt.	Congregat.
A. D. 1760—	11,600	16,000	22,000	440,000
1785—	23,200	32,000	44,000	880,000
1810—	46,400	64,000	88,000	1,760,000
1835—	92,800	128,000	176,000	3,520,000
1860—	185,600	256,000	352,000	7,040,000

A TABLE of Increase upon 500,000 Inhabitants in the four *New-England* Governments for the present Period of Doubling; by inspecting which may be seen the Number of Inhabitants in *New-England* for each Year.

A. D.	Nº of Inhab.	A. D.	Inhab.	A. D.	Inhabitants
1760	— 500,000	1769	— 641,710	1778	— 823,590
1761	— 514,050	1770	— 659,760	1779	— 846,745
1762	— 528,510	1771	— 678,305	1780	— 870,550
1763	— 543,370	1772	— 697,370	1781	— 895,025
1764	— 558,650	1773	— 716,971	1782	— 920,185
1765	— 574,350	1774	— 737,135	1783	— 946,060
1766	— 590,500	1775	— 757,857	1784	— 972,655
1767	— 607,090	1776	— 779,165	1785	— 1,000,000
1768	— 624,170	1777	— 801,070	1810	— 2,000,000
				1835	— 4,000,000

And as this Increase, in Proportion to the Number of Inhabitants, is much greater in some of our Colonies than at home, (as they there commonly double their Number in 25 or 30 Years) therefore all proper Attention, Countenance, and Assistance should ever be given to those by Great-Britain. The healthiest Situations should first of all be chosen and fixed, and every Encouragement given to the Settlers to extend their Commerce, and thereby increase both their Property, their Produce, and their Numbers.—To this End their Trade should be left as free and open as possible—no unnecessary Taxes or Impositions laid upon them, but all burdensome Grievances removed, and every Indulgence granted that may promote the Ease, the Peace, and Liberty of the Inhabitants, whereby not only their Property, but their Fertility and Number will certainly be increased, and the true Interest of Great-Britain best promoted.

A COMPARATIVE HISTORY

OF THE

Increase and Decrease of Mankind in *England, &c.*

TO pass a right Judgment on the Healthiness or Longevity of any Place or Country, Cities and large Towns especially, we shall go as far back as we have good Vouchers, whereof Parish-Registers are the best, if faithfully kept, and for a long Series of Years. Thus we are able to trace what was the original Estate of the Health of the City of *London* only 40 Years back, (*viz.* from 1604 to 44) while Unity and Harmony in Church and State continued; for from that Period often began Divisions and Separations, or both. From 1604 to 24 were baptized 144,239, whose yearly Medium was 7211; buried, 167,990; Medium, 8399; whereof died of the Plague, 14,994; Medium, 749. Suppose there had been no Plague, about fifteen Sixteenths of that Number would have died of common Diseases and Accidents in those 20 Years; thus the Number of Dead, without any Plague, had been 152,996; then Births had been to Burials near 19 to 20, or 8757 more buried than born in the 20 Years, or 437 yearly. This gives us the State of the Health of the City then; but great Towns, seldom being so fruitful as Country Places, instead of one Family of seven having a Child yearly, we shall take one for every eight Families, and six Souls to each Family, which is as much as can be reasonably allowed, as shall be fully proved hereafter; then the yearly Births being 7211, the Families must have been 57,688, the Souls 346,128.

In the second or next 20 Years, *viz.* from 1624 to 1644, were born 186,608; Medium, 9330; buried, 267,832; Medium, 13,391; whereof died of the Plague, 56,423; Medium, 2821. Here we have the Increase of the City Births in this Vicennary, *viz.* 42,369, near 2120 yearly. Increase in the Funerals, 99,842; almost 5000 yearly. But, allowing for the Plague as above, the yearly Funerals had been 10,570; so, by common Mortality without any Plague, the City had yearly 1240 more buried than born, or more than a ninth Part, which in the first 20 Years were about a nineteenth Part, exclusive of the Plague. In this Vicennary the Number of Families seems to have been 74,640, of Souls 447,840.

In the third Vicennary, from 1644 to 1664, registered Baptisms were 142,256; Medium, 7112, near 100 fewer than the first; yet the Burials are nearly the same as the last, viz. 257,058, or above one Half more than the first, yet less Plague than either of them; it's Medium was 12,852. The great Increase of Funerals, and Decrease of Christenings in this Period, shew the dire Divisions and Confusions occasioned by the Civil War. If we subtract (36,722) a seventh Part from the Buryings, and add it to the Baptisms, both make 178,974, then there remain 78,111 unregistered Baptisms. This was done in the last Period, wherein the Burials exceed Baptisms 42,962. After this Period there is no calculating the Numbers of Families and Souls with any Certainty; Christenings are so decreased and Burials increased, from the great Number of private Baptisms and separate Burying Grounds, besides the vast Numbers of Places of public Worship and Burying Places belonging to the Church, never yet entered into the printed Bills of Mortality, and the shameful Neglect of public Registers in many Places from the Negligence or Absence of the Incumbents, Curates, or Clerks: So that the *London* Bills of Mortality are now of little Use, except shewing the general State of Health, the Increase or Decrease of the City, or the greater Mortality of Males and Females.

From 1664 to 84 were registered 241,587 Births; Medium, 12,079. Buried, in all, 457,508; whereof died of the Plague, 70,682: Medium of the whole, 22,875. Hitherto Dissenters seem to have had no Burying Places of their own, tho' Monarchy is restored, the Government settled, and the City increases and flourishes; yet here we have only 241,587 registered Baptisms, but the Births must have been 362,148; then Baptisms not registered were about 120,561; Families, 144,856; Souls, 899,136.

In the first Vicennaries, outward Unanimity still subsisting among the Citizens, we see the true State of Health of the City; from 1604 to 44 Burials were to Births as near four to three, tho' near six Times more died of the Plague in the first 20 Years than in the second, yea, more than in the fourth, considering the Increase of the City and Number of Inhabitants. But the Difference between the second and third is most remarkable. In the second, the yearly Births were 9330, Burials 13,391; in the third, the Births were only 7112, but the Burials 12,852, above 2200 baptized fewer yearly in the third than second Period. From the Bills of the fourth Period we see Dissenters had yet few or no Burying Places of their own. By pursuing this Method a little further, it would be easy to discover the true Number of Dissenters, as it would still be, were the yearly legal Marriages published in the Bills as they should be, and are in other Places.

In the fourth Vicennary (not sooner) after a fifth Part of the Burials are added to the Births, (to complete the Number of Burials as usually should be in that Vicennary) there remained still 122,420 Burials, for which there are no Christenings; from which subtract a fifth Part, then remains yearly the true Number of unregistered Baptisms, *viz.* 99,526, or near 100,000, whose Medium is 5000 yearly; so that the true Medium of those Baptisms which stand at 12,079, should be 17,079, to answer the like Proportion to the Funerals, as formerly. It is true 70,682 died of the Plague; so did 56,423 in Period second, when the City had far fewer People; but in the last 17 Years of this fourth Period there was no Plague: Hence in that Time most of those that died in it would have died of common Diseases and Accidents. But, to set this Affair in a clear Light, let us take the next 24 Years, *viz.* from 1667 to 91; herein were born 314,542; buried, 477,364; born, at a Medium, 13,106; buried, 19,898; remains, 100,254 unregistered Baptisms, over and above one Fifth taken from the Buryings and put to the Baptisms, to compleat the former Proportion of Buryings to Baptisms. Hitherto few or no separate Burying Places.

In the fifth and last Period, *viz.* from 1738 to 61, (wherein most Dissenters are possessed of their own Burying Grounds) were baptized 355,092; to which add a fifth Part as formerly, when the City was far more unhealthy, and buried only 426,111; but in this Period we find 558,087; here we have 131,976 Burials, for which we have no Christenings. From this subtract a fifth Part, remains 105,581 unregistered Baptisms, annually 4590, of Catholics, Protestant-Dissenters, &c. most of whom, as they have their private Baptisms, have also their separate Burying Places. These 4590 private Baptisms, added to the yearly 15,439 registered Christenings, make in all 20,031. This makes the City to consist of 140,217 Families; and, allowing six Souls to each Family, one with another, (which is the utmost that can reasonably be allowed, as we shall see hereafter) make 841,302 Souls; which is as just an Estimate as can be given now, except Births, Burials, and legal Marriages were registered at the Clerks' Hall, and published. It is true a tolerable Guess, not much wide of the Truth, may yet be made of Weddings between 1604 and 44, by allowing four or four and a Half Children to each Wedding then, (which, in most Registers, are far too many now, in Towns especially) and they appear to be about 82,968.

1. Hereby are pointed out several valuable Uses of Bills of Mortality hitherto unnoticed.—2. The Time when the Bills of Mortality are

most to be depended on, *viz.* before the Year 1644.—3. The special Preference and Regard that should be had for Bills prior to that Period, as they are more certain.—4. The City of *London's* great Neglect in not carefully preserving their Bills entire before 1604, *viz.* 65 Years after the Order was given out by King *Henry VIII.* in 1538; and also the Inexcusableness of such Parishes as still have their old Registers that lie by in a most scattered Manner, and do not get them copied out to preserve, or at least get written out, in a fair Hand, the yearly Totals of their Births, Marriages, and Funerals.—5. The great Defect of the *London* Bills, not only in totally neglecting legal Marriages, Dissenters Christenings and Burials, but in still omitting those belonging to several Places of public Worship on the present Establishment. Tho' here is shewed a Way how we may come at the Knowledge of most of the former Dissenting Christenings from 1644 to 84, and pretty near the Truth, a Way formerly unthought of.—6. Here we find the natural State of Health of the City. The healthiest Time the City's Records can shew, is from 1611 to 25, 14 Years which scarce had any Plague, when the former last Plagues had swept off Multitudes of it's crazy Inhabitants; born, 102,845; buried, 122,554; scarce 7850 born yearly, yet above 8600 died yearly; near 1000 more died than were born.—7. We see here a near Proportion between Christenings and Buryings in the above Vicennary.—8. Here we have discovered a more sure and easy Way to discover the Number of Families and Souls in any Place where there are no Dissenters, than by all former Disputes, Conjectures, and Computations. The same we have from legal Marriages published, be the Dissenters many or few.—And, 9. Hereby we come at or near the Bulk of Dissenters, as is shewn above.

Some Observations on the Bills of the Metropolis challenge our Attention. First, in the Bills published for the first 40 Years, were born 332,168; died, of common Diseases and Accidents, 355,326; of the Plague, 116,087; Total, 471,413. Here were 149,245 more buried than born; 13,158 more died of common Diseases (Plague excepted) than were born; Burials, of common Diseases only, exceeded the Births, at a yearly Medium, about 800: Or, allowing a third Part that died then in the Plague to have outlived these Years, which is yet by far too large an Allowance, then 77,392 more would have died of common Diseases. Thus 108,960 more had been buried than born in 40 Years; that is, above a Third more died. In the following Table for the Years 1592, 93, (of 92 we have only the yearly Totals; of 93 we want *January* and *February*, therefore their yearly Totals are put before the last Totals at the

the Bottom) 1603, 6, 7, 8, 9, 10, 25, 30, 36, 37, 40, 42, 43, 44, 45, 46, 47, 65. In Column 1st of this Table are the Totals that died monthly of common Diseases; Column 2d, the Numbers that died in those Months of the Plague; Column 3d, the Totals that died of both; Column 4th, the monthly Births in those Years.

Died of common Diseases.	Of the Plague.	Totals of both.	Born.
December	16280	3283	19563
January	1446	1106	2552
February	13114	1456	14570
March	16348	893	17241
April	15775	1525	17300
May	16056	1925	17981
Total	79019	10188	89207
June	16753	3525	20278
July	23176	21438	44614
August	38778	43425	82203
Septemb.	34919	49555	84474
October	9722	29688	39410
Novemb.	16228	10242	26470
	139576	157873	297449
Totals	139576	157873	297449
	79019	10188	89207
	14987	11503	26490
Totals	233582	179564	413146
			160020

In the 20 specified Years in this Table, we find a prodigious Loss, which necessarily demands a speedy Supply of Inhabitants, or the City must quickly be depopulated, viz. a yearly Waste of about 10,400 People, requiring the like Recruit. But in the Time of the Plague the fresh Recruits, many of them coming out of a fine, pure, healthy Air, would sooner be infected with the Contagion than the Natives accustomed to that Air. Tho' the Bills after 69 did leave out the Article of the Plague, yet, from 1681 to 1711, (30 Years) were only registered 250,008 Baptisms, and 645,937 Burials; the former to the latter as 25 to 64½. The Births to the Burials in the above 20 Years, when there

were few or no separate Burying Places, are near three to seven on the whole; but in the Plague of 93, as one to six; in 1601, as one to eight; in 36, as one to five; in 65, as one to ten.

Tho' the present *London* Bills begin only with the Plague of 1592, yet the City had often been visited with the Plague before, and was seldom long free from it, from 1603 to 78; but the Mortality itself was neither equal in Years nor Months; for in 1592 and 93 died of it 21,955; in 1603, 30,561; in 25, 45,433; in 30, 1317; in 36, 10,400; in 65, 68,596. The Months and Seasons differed as widely. The greatest Mortality was in *August* and *September*, wherein died 166,677; in *July* and *October*, 84,019; in all the other eight Months 148,925. It probably was this greater Mortality in Harvest by common Diseases, as well as by the Plague, during *July*, *August*, and *September*, which induced Major *Grant* to think Autumn the fatalest Season in *London*, and *October*, *January*, *February*, and *April* the healthiest; wherein he contradicts his former Assertion. The great Superiority of Funerals to Christenings was much

much owing to the greater Resort to the City in Winter; tho' we see the greatest Deaths then was in Harvest, when there was least Company in Town. But in a later Table, *viz.* from 1732 to 47, we find *February*, *March*, and *May* exceed the other Months much in Mortality, (as it commonly is in other Places) for in them died 140,852; but in *June*, *July*, *April*, and *August* died only 112,859; 29,000 Odds, or almost 2000 monthly. In the other four Months, of mean Mortality, died 125,126; in all, 378,837: These Months might be more fatal in *Grant's* Time, both as common Diseases might often be attended with some Taint of the Plague, the City being then seldom clear of it, (especially when it came by Air or Food) and no Doubt several dead of the Plague might be reported to the Searchers to be dead of other Diseases, to lessen, as much as possible, the general Panic. In perusing Country Bills, the Spring is generally found most fatal; so that the Spring greater Mortality in *London* cannot be justly imputed to the Winter's greater Resort thither. But, to be satisfied of the Truth of this, compare the former or latter Winter or Autumn and Spring Bills together, and find what Addition the Resort of Company makes to them, and see the Difference now, and when there was less Resort; as in the Reigns of King *James I.* and King *Charles I.* when few Parliaments were called, and their Sessions as short; seldom any War at home or abroad, (before 1642) and the *Welsh* Courts of Justice were held at *Ludlow*. All these are now a great Cause of much Company going to *London* in Winter; and even then the Spring might be found the most mortal Season in the Year.

In the above five Years greatest Plagues in *London*, (exclusive of that of 1562, wherein died 20,136) the yearly Medium is about 47,084 that died; or near sevenfold the Births, which were only 39,551; their Medium, 6592. These Plagues cut off about 717,892, which were more Citizens than had ever lived at any one Time before then: Hence the Government can never be too circumspect and cautious to prevent it's Importation or Admission from abroad; nor too careful in providing the City Granaries with healthy Provisions, should a Plague arise from Famine, or unwholesome Food at home: Which good Design may be greatly promoted, when there are just Causes to apprehend a Dearth or Scarcity, by putting a Stop to the Exportation of Grain, and encouraging it's Importation; taking the Drawback from one, and giving it to the other; by preventing Distillation of Spirits, and melting Wheat into Malt; by putting down Swailers, and hindering Millers from turning Badgers; by making hoarding up and monopolizing Corn, capital; for the utmost Vigilance should always be

be used for the Support of the Poor, as they are the Strength of the Nation, both in Peace and War, by Land and Sea.

Here are three Septennaries of the Ages wherein the Citizens mostly die; the first, by *Grant's* Reckoning, from 1629 to 36; the second, from 1728 to 35; the third, from 1755 to 62; Column 6th, *Edinburgh*; 7th, *Northampton*; 8th, *Vienna*; the 9th, *Breslaw*. No Places have given us the Ages of those that died of the Plague particularly, but of all common Diseases; tho' we often see that some Diseases affect some Ages and Constitutions more than others at certain Seasons.

	1		2	3	6	7	Ages.	Vienna.	Breslaw.
Under 6 Years old	27000	Under 2	69926	49777	450	155	Under 2	11232	1733
6 to 16	14000	2 to 5	16223	13668	467	118	2 to 5	3469	580
16 to 26	15050	5 to 10	7019	5087	146	64	5 to 7	933	265
26 to 36	6080	10 to 20	5850	4395	77	59	7 to 10	473	115
36 to 46	4020	20 to 30	13791	11088	105	122	10 to 16	427	56
46 to 56	2747	30 to 40	17047	12840	156	89	16 to 20	319	38
56 to 66	2077	40 to 50	16916	12659	232	211	20 to 25	743	48
66 to 76	1350	50 to 60	13618	11309	203	111	25 to 30	807	129
76 to 86	670	60 to 70	11654	9673	220	112	30 to 35	969	116
		70 to 80	7535	7222	186	91	35 to 40	995	147
	72994	80 to 90	4756	3102	55	55	40 to 45	1062	129
		90 to 100	951	550	11	6	45 to 50	1018	164
			185286	141370	2308	1193	50 to 55	995	160
							55 to 60	805	179
							60 to 65	928	170
							65 to 70	776	199
							70 to 75	715	151
							75 to 80	554	169
							80 to 85	371	35
							85 to 90	215	25
							90 to 95	68	25
							95 to 100	57	7
							100 to 109	28	4
								27959	4644

In *London*, from 1629 to 35 inclusive, born, 67,210; buried, 67,356: From 1728 to 34, born, 121,543; buried, 188,208: From 1755 to 62, born, 103,505; buried, 142,175. *Edinburgh* has only the Age and Burials of 1740 and 41. *Northampton* in 13 Years, between 1742 and 57 inclusive, had 2839 Births, and 2475 Burials, Dissenters included; and tho' the Town has four Churches, yet only *All Saints* sent in the Ages and Diseases. In 1728, 32, 38, 39, died in *Vienna*, 27,932: In *Breslaw*, in 1722, 3, 4, died 4649: In *Edinburgh* City only died in 46 Years, Children, 25,398; Adults, 23,048: In *Dublin*, in 28 Years, died, under 16 Years old, 35,002; above 16, 37,364: *Carstarphen*, near *Edinburgh*, in seven Years, buried, Children, 1637; Adults, 1001.

In this Table is remarkable, 1. The great Increase of *London* in one Century, viz. from 1629 to 1728: Burials rose from 67,356 (tho' 1600 died of the Plague) to 188,287: An Increase of near 121,000, exclusive of Dissenters Burying Grounds, and those of Foreigners.—2. Since the
Dis-

Disparity then between Christenings and Buryings was far less considerable, and the City Air and Water much worse, (as is evident from the great Death of Children and of Adults now, in Proportion) then one Cause of the Disparity now, is from unregistered Baptisms, and the yearly greater Resort of fresh Incomers, baptized before they come, and dying there: There were also more Abortives and Still-born registered formerly.—3. Since there is so great a Disparity now between the Baptisms and Buryings, then some of that laudable necessary Policy used at that Time must be wanting, to the greater Drain of the Country Youths, and weakening the Natives.—4. This gives a Sort of Key to what should be the true Number of Births now, as they will not give the legal Marriages, which would soon inform us; for once the Number of Births, at a Medium, was 9601 to 9622 Buryings. In our second Septennary the Number of Births was 17,363; Buryings, at a Medium, 26,601: Here wants near 9000 yearly Births. Births, in the third Septennary, are 103,505; Burials, 142,175; Medium, of Births, 14,786, of Burials, 20,350: Here is wanting only 38,370 Births, *i. e.* 5524 yearly; or near a third Part; but this is in Part cleared before.—5. Here seems to be a visible Decrease of Citizens in 20 Years; Births, from a Medium, at 17,363, are fallen to 14,786; Burials, from 26,601, to 20,310: But, in Reality, the City is much more populous than appears by the Bills, not only on Account of private Births and Burials, but of several Burying Places belonging to the established Church, never taken into the Bills; whilst the *French*, boasting of their Metropolis, crowd their yearly Bills not only with each of the Citizens, but with Dead from distant Places, as their Hospital *De Invalids*, tho' a national Hospital; whilst *London*, conscious of her Majority, drags none into her Bills but such as are either contiguous or continuous (*Hackney* excepted) but omits many in her Bosom. In 1686 the Houses and Families in *London* and *Paris* were calculated by Sir *William Pettey* and Mr. *Auzout*; at last both agreed that *London* was to *Paris* as 14 to 13. In *London* were 105,315 Houses; but out of them Sir *William* deducted 10,331, which contained only two Families a-piece; the other Houses, many Families, 115,840, six Souls to each Family, in all 695,076. The Houses in *Paris* were 23,223, allowing seven Families to each House, and six Souls to each Family, 487,680.—6. This Table shews whether different Situations, Buildings, Manners, or Businesses of Life; free, open, well-aired, or mewed, thrust-up, strait, narrow Places are more healthy, favourable, or fatal to some Ages, Constitutions, Diseases, &c. At *Vienna* died, under five Years old, 14,699, out of 27,932, above one Half: At *Breslaw*, 2315 out of 4651: At *Northampton*, above one

one Half.—7. Here we see which are ordinarily the most dangerous Periods of Life after Infancy; which at *Vienna* is from 40 to 50, near two of 13 die; the like in *London* lately: In *Northampton*, from 50 to 60, and 70 to 80, all three Ages pretty much alike: In *Edinburgh*, from 60 to 70, after Childhood.—8. Had we from several very different and distant Places, for long Courses of Years, exact Bills with the Ages, we should see whether the same Periods of Life were equally fatal in all Places, or how they differ in fundry Places: Thus, in *London*, from 26 to 36 is fatal; but in the second Period, from 40 to 70, and in the third, from 30 to 40; and from 40 to 70, in different Periods.

T A B L E III.

Of Diseases and Casualties. Column 1st, in *London*, from 1629 to 36; Column 2d, and second Octennary, from 1695 to 1702; Column 3d, and third Octennary of *London*, from 1754 to 62; Column 4th, *Edinburgh*, from 1750 to 62; Column 5th, *All Saints, Northampton*, for 13 Years; Column 6th, *Vienna*, for 1738 and 39; Column 7th, *Berlin*, for 1722, 23, 24; Column 8th, *Breslaw*, for 1722, 23, 24.

Abortive, Still-born, Chryfoms	21527	4925	4922	300	43	00	257	211
Acute Diseases, Child-Bed —	1258	1650	1715	272	66	27	35	25
Fevers and Agues —	11453	26447	20583	3167	169	989	469	255
Convulsions, Epilepsy —	2181	38718	53499	523	222	—	—	—
All Hæmorrhages —	2076	116	98	174	11	137	89	7
Gangrenes, Mortifications —	7096	332	140	22	17	1084	8	26
Quincy and sore Throats —	100	85	180	12	—	7	6	6
Pleurisy, Peripneumony —	182	210	116	48	3	10	58	25
Apoplexy and suddenly —	460	727	888	560	34	00	9	8
Inflammations —	—	325	688	—	—	—	—	—
Thrush —	338	835	702	114	13	10	93	78
Small-Pox —	2547	6785	16930	665	171	1143	8	1
Measles —	220	80	2598	0	0	0	0	0
Chincough —	—	—	1817	708	—	—	—	—
Cholera Morbus —	23	78	79	—	—	—	113	208
Plague —	12000	—	—	—	—	—	—	—
St. Anthony's Fire —	—	51	42	12	—	—	—	—
Head mould-shot, or Water } in Head }	—	109	292	32	6	224	—	—
Cholic and Iliac —	192	640	546	32	—	—	1380	870
Teeth and Worms —	3254	10443	6538	743	60	463	345	233
Casualties —	3923	4612	3035	27	3	177	—	—
CHRONIC DISEASES.								
Asthma and Phthific —	133	5143	2785	258	153	—	—	—
Coughs, Consumptions —	16026	26217	27051	2731	84	3011	1822	216
Aged —	5458	9687	12711	1609	—	118	13	14
Hysterics —	633	112	21	—	—	—	—	—
Tympany —	—	—	—	33	—	—	—	—
Dropfy —	2280	5860	6875	65	4	798	34	1441
Palsey —	159	175	483	—	24	703	654	—
Lunacy —	41	178	655	—	—	—	—	—
Melancholy —	42	49	30	—	—	—	—	—
Scurvy, Leprosy, Itch —	67	89	25	—	—	10	—	—

Gout, Sciatic, Cramp	—	49	122	410	—	—	—	38	1
Gravel and Stone	—	382	335	224	46	—	9	3843	31
Rheumatism	—	—	113	85	37	—	9	6	6
Rickets, Liver-grown, Spleen	—	761	2946	62	—	—	65	8	—
French Pox	—	111	505	525	—	—	—	—	—
Evil, Sores, Ulcers, Swellings	—	1570	1503	1025	11	2	116	—	—
Cancer	—	—	559	468	10	—	—	—	—
Surfeit	—	805	444	18	—	—	—	—	—
Stoppage at Stomach	—	6	3405	110	—	—	26	6	20
Ruptures	—	633	201	76	9	—	34	13	—
Head-Ach, Megrim	—	52	20	8	9	—	—	—	—
Flux and Bloody Flux	—	3053	125	109	39	—	—	—	—
Jaw-fallen	—	82	—	—	—	—	—	—	—
Jaundice	—	381	566	866	7	—	74	13	2
Grief	—	42	49	30	—	—	—	—	—

In the first *London* Octennary were born 76,632; buried, 91,168; of which 12,000 died of the Plague. In the second Octennary were born 121,823; buried, 159,028. In the third Octennary were born 118,452; buried, 164,871: No Plague in the two last Octennaries. Some Numbers are lost in the Tables of Diseases. Buried at the *West Kirk* and *Grey-Fryers Church* only, in *Edinburgh*, from 1750 to 62, 19,619. In *Vienna*, in 1738 and 39, 13,521, tho' there are only 9331 in the Table. Tho' the *London* Tables of Diseases are deficient, yet the foreign are far more so. The former are very incorrect in classing Diseases of different Kinds together in the same Articles; as Cancers, Fistula, Gangrene, Wen, Wolf, Liver-grown, Spleen, and Rickets; all Sorts of Cholics in one; various Kinds of Dropsies in another; all Fevers in another. Tho' foreign Bills want many Diseases, yet they are much more particular in right classing those they have; as in Diseases of the Breast, they divide them into Hectic, Inflammatory, Imposthumations, Atrophy, Catarrh, Asthma, Cough, Decay, Catarrhs hot and cold. The like Division of the Diseases of the Belly; Fevers, into Intermittents, continual, flow, ardent, inflammatory, low, putrid, with or without Looseness; Palsy, numb, or shaking. They specify the several Hæmorrhages. Such Divisions are very necessary.

In the first *London* Octennary are some useless, unintelligible, or superstitious Articles; as Bleach, Wolf, Planet-struck; some whereof had so few, that they deserved no Place in the Table; as Scald Head, Spleen, Wen, Shingles, Calentures, Mother, &c. Of each of the last five died 4; of Fright, 5; Itch, 10; Bleedings, 23; blasted, 60; Falling Sickness, 48; Head-Ach, 6; Cancer, Gangrene, Fistula, 196; Jaw-fallen, 82; Megrim, 46. Rickets appeared first in the Bills in 1634; Scurvy, in 55; it prevailed much after. Stoppage at the Stomach was not heard of before 36; nor Swine or Chicken Pox, which almost vanished soon after. Spotted Fever was not made a separate Article before 1728. In the second Octennary

Octennary 13 died of Diabetes; of the Head mould-shot, 95; Liver-grown, 74; Rickets, 3204; King's Evil, 500; Fistula, 55; Sores and Ulcers, 280; Head-Ach and Megrim, 17; Imposthumes and Swellings, 426.

Rheumatism was added in 1689; Mortifications, in 1702, tho' Gangrene is still retained. Purple and Spotted Fevers had no separate Article from other Fevers, but from 1701 to 29. From 1703 to 23 Scarlet Fevers made another Article. Inflammations crept into the Bills in 1704. From 1701 to 28, died of the Purples, 581; rose from 56 in one Year. In the same Year died of the Spotted Fever, 2409. From 1703 to 23, died of the Scarlet Fever, 92. Before 1702 the same Article served for Dropsy and Tympany; then they were parted. From 1702 to 58, died of Dropsies, 51,623; of a Tympany, 584: After which the Distemper seemed to be wearing out, for not above 1, 2, or 3 died of it in a Year, and sometimes none. After 1701, Canker, Thrush, and Cancer were separated; in which Time died of the second, 4963; of the third, 3518. From 1704 to 24, died of the Chincough, 58. In 1702 Mortification was taken into the Bill, tho' Gangrene was still kept in till 1721. From 1684 to 1762, died of a Diabetes, 155; and of a Fistula, from 1701 to 62, 155.

Thus we see the several Alterations made in the Articles of the Bills since the Year 1629, when an Account began to be kept of the Diseases and Casualties of which People died. *Grant* says, in 20 Years after that died, in the whole, 229,250; and that 71,124 died of Convulsions, Worms, Teeth, Abortives, Chryfoms, Infants, Liver-grown, and over-laid. And it appears by examining the Register, that, from 1647 to 57, in those ten Years died, of all Diseases, 114,956; and of the above Diseases fatal to Children under four or five Years old, died 35,344, which is above a Third of the Whole. Again, from 1752 to 62, were buried, of all Diseases, 204,632; and of Children, of the above Diseases and Ages, 51,915, or 56, to 204 $\frac{1}{2}$.

Another Use of the above is, that where several Diseases of different Kinds were injudiciously huddled together in one Article, being separated we see their several Mortalities clearly, which were not visible before.

1. Though the Number of Still-born, Abortives, and Chryfoms is dwindled to little above a fifth Part, yet about four Times more die now of Convulsions than in the first Octennary; both which added, make about a fourth Part of the whole dead: But in the second Octennary they make 10,000, or a Seventh less than a fourth Part; the Reason whereof seems not to be that Abortives, Still-born, and Chryfoms are so many

fewer now, but fewer of them are registered now than formerly, when meer Embrios were registered: Hence one Reason why the Death of Children is diminished, but of Adults increased; not that Abortives and Still-born are thrown into Convulsions; for with what Propriety can those be said to die of Convulsions, who never breathed, or were born dead, or their Mothers miscarried of them early? Tho' Convulsions are increased greatly between the End of the first and the Beginning of the second Octennary, to which the unnatural and premature Death of Bastards, expiring under the Name of Convulsions, may contribute.—2. The Mortality of the Small-Pox and Measles is greatly increased. In the first Octennary it was 2767; in the third, 16,930; above sixfold the first, tho' the Inhabitants are not doubled.—3. The Numbers dying of Teething and Worms is also double in the third Octennary.—4. Canker and Thrush, from three and a Half in the first Octennary, rose to above eight in the second; but fell in the third to seven, tho' there were above 6000 more Funerals: So these two seem declining.—5. Rickets, in the first Period, were 761; in the second, 2916; in the third, only 62. They are almost worn out.—6. Head mould-shot is almost out, as also Jaw-fallen and Swine Pox are near out. These are a Class of Diseases chiefly belonging to Children; tho' Thousands of them die of other Diseases, (and some few Adults of these) especially Gripes and Consumptions, common to both, as well as Fevers.—7. In the first Octennary, wherein only 79,165 (exclusive of the Plague) died, 31,000 died of Children's Diseases, besides Purples, Rash, &c. In the second Octennary 64,623 Children died out of 159,028. In the third Octennary 72,168 Children died out of 164,871, in the whole nearly two Fifths. In the first Octennary near 31 out of 80. In the second, $64\frac{1}{2}$ to 159. In the third, as 72 to 164 $\frac{1}{2}$. So that in Proportion more died of Children's Diseases in the third than first Octennary, Plague excepted. The two most fatal Distempers both to Children and Adults, are Consumptions and Fevers, whereof died in the first Octennary, 27,479; in the second, 52,664; in the third, 47,634.—8. In the third Octennary the following Articles run much higher than in either of the other, in Proportion to the Totals, *viz.* Convulsions, Still-born, Chryfoms, Aged, Lunatic, Dropsies, Small Pox, French Pox, Teething, Cancer, Gout, Jaundice, Palsy, Inflammations, Mortifications, and Casualties. All these together, in the first Octennary, were 39,566; in the second, 79,878; in the third, 97,175. On the contrary, these Articles are declining between the second and third Octennaries, *viz.* Fluxes, Hæmorrhages, Ruptures, Gripes, Stone and Gravel, Evil, Sores, Ulcers, Gangrene, Fistula, Imposthumes and Swellings, Itch, Scurvy, Leprosy, Liver-grown, Rickets, Surfeits, Head mould-shot, and Worms.

Dead

Dead of all these Diseases, in the second Octennary, 17,315; in the third, 1427; and in the first, 8498. So that some Diseases seem to have a temporary Reign, or some hitherto unknown Periods or Rotations. This seems to hint that Surgery is much better known and improved than Physic; or that Physicians have changed their Track of Practice for a worse, especially in sanguine, inflammatory, and eruptive Disorders, and calls to reflect and compare the Success of the present and *Antiparacelsian* Methods of Cure.

In *Edinburgh*, Consumptions, Fevers, Small-Pox, and Teething are full as fatal as in *London*; but fewer Abortions (or not registered) and Convulsions, fatal Fluxes, Bleedings, Cholic, and Gripes; no Lunatics, Leprosy, or Lethargy; French Pox (tho' they have them as well as their Neighbours) are not mentioned, and in *London* only a few of them out of some Hospitals; but as we have only the *Edinburgh* Bills of Mortality for the *West* Kirk and *Grey-Fryers*, it is a very lame one. Perhaps they have no Searchers; but the Grave-Maker's inquiring of the Friends at the Funeral, might soon be informed of the common Diseases they died of.

Northampton has more Consumptions, but few Convulsions, and is more fatal to Teething and Child-Bed Women.—Fevers and Consumptions are the most fatal Diseases in *Sheffield*, where glandulous Swellings on the Neck and Bronchoceles are very rife, and chiefly so within these 40 Years, and still increase; but the first of these gradually wear off about or soon after Puberty, if the Constitution is not weakened by too much Purging, especially with Mercurials. In weakly Constitutions it is apt to turn to an universal Scrophula; or if the Glands of the Neck swell not, or swell and soon subside, it falls on the Lungs, and turns to an incurable Phthisis.

In *Vienna* Bills we find neither Abortions nor Convulsions; but Consumptions, Fevers, and Small-Pox, especially Palsies and Dropsies, are fatal; and Teething and Mortifications are still worse; very few Apoplexies; Child-bearing is favourable: Stone and Gravel, outward Sores, Ulcers, Eruptions, and French Pox are rare. No Rheumatism, Spleen, Stoppage at Stomach, Surfeit, Head mould-shot, St. Anthony's Fire, Worms, Jaw-fallen, Cancer, or Swine Pox are mentioned in their Table of Diseases. The Numbers contained are only 10,929, tho' 13,521 were buried; so that the Table wants above 2500 of the Dead.

In *Berlin* died 6771, or *All* in the Table. Consumptions and Convulsions are so fatal here, that near half the Number died of them. The
next

next fatal Diseases are Fevers, Abortions, Palsies, Teething, Jaundice, and Fluxes; of these died 2185.

Breslaw buried 4578, only 26 fewer than in the Table. Here also Palsies and Consumptions were most fatal; Abortions, Fevers, Dropsies, Convulsions, Teething, Vomiting, and Looseness were pretty much alike, but more fatal than in *London*. But they seem Strangers to Gripes, Hæmorrhages, Lunacy, Lethargy, external Evils, French Pox, Liver-grown, Rickets, Rheumatism, Spleen, Surfeits, Stoppage at Stomach, Head mould-shot, Worms, Erysipilas, Jaw-fallen, Swine Pox, Cancer, Inflammations, &c. Sometimes the Small-Pox are very mortal there, other Times as favourable. *Northampton* Bill lost 331 of their Buried in the Table of Diseases. There Consumptions, Fevers, and Small-Pox are most fatal.

Another Query arising from this Table is, What Proportion does Death, by Acutes in this Table, bear to that by Chronics? Setting aside Abortives, Still-born, and Chryfoms. Of Acutes, during these three remote Octennaries, in the first, died 40,695; in the second, 91,286; in the third, 11,068. A great Increase of the Mortality of these Diseases in less than 130 Years. Of Chronics, died in the first Octennary, 32,265; in the second, 57,788; in the third, 53,756. Thus we see how strangely Acutes increase. In the first Octennary, they were to Chronics, as 9 to 8; in the second, as 43 to 29; in the third, above double; risen from $20\frac{1}{2}$ to 16 in the first; and from $55\frac{1}{2}$ to $53\frac{1}{2}$, in the third. Would giddy Youths seriously consider this, if they would not be virtuously disposed for Virtue's Sake, yet for their own, and their Offspring's Sake, they should be chaste and temperate. Tho' Libertines say that only two Ninths die of Acutes; and therefore they have a good Chance of Chronics, to give you Time to reflect and reform: But see the Mistake in the above Table. However, to mention some of those Acutes which make such increased Havock of the Citizens; they are Fevers, Convulsions, Inflammations, Apoplexies, Small-Pox, Child-birth, or Child-bearing, Hæmorrhages, Quinsies, Pleurifies, Peripneumonies, Measles, Cholics, Plagues, Mortifications, Cholera-Morbus, &c. Chronics are Consumptions, Aged, Palsies, Dropsies, Asthma, Gout, Rheumatism, Stone and Gravel, Evil, Sores, Ulcers, Scurvy, Melancholy, Leprosy, Worms, Cancers, Ruptures, Fluxes.—Diseases, more peculiar to Children under five or six Years old, are Abortions, Still-born, Chryfoms, Over-laid, Thrush, Convulsions, Teething, Worms, Rickets; of these died 35,344 out of 114,956, that died in all, from 1647 to 57. And in the same Years died of the Small-Pox, Swine-Pox, and Measles,

Measles, 7288; died in the whole, of reputed Children's Diseases, 42,635; and from 1752 to 62, out of 204,632 buried, died of these Diseases 55,915; and of the Small-Pox and Measles, 23,701; in all, 79,616. In the latter near two Fifths died of reputed Children's Diseases, of the former not so many. Hence, no visible Appearance of the late Decrease of Children's Mortality; but if fewer are born, fewer will die.

Our two lesser Metropolises afford but few Remarks. In *Dublin*, from 1666 to 81, the yearly Medium of Births these fourteen Years was 984; Burials, 1613: And from 1715 to 28, other fourteen Years, the Medium of Births was 1342; of Burials 2123. Both Totals were 18,294 and 39,623. From 1736 to 46, born, at a yearly Medium, 1501; buried, 2360. Now, as from 1666 to 81 were born, at a Medium, 984; buried, 1613. And 1715 to 28, yearly Medium of Births was 1342; of Burials, 2123. We see the Increase of both at 35 Years Distance. In 1695, the Births were 1140; and in 1724, 1340; the yearly Increase is 200. In 95, on an exact Account taken, the whole Number of Souls in the City was 40,508. By this Account 1 of 25 died yearly. But as the Number of Births in a Place is commonly equal to the Number of Inhabitants in 28 Years, (only Protestant Children are registered in *Dublin*) the Medium of their yearly Births being then 984, at that Time were about 27,500 Protestants, and 13,000 Catholics, whose yearly Births were about 450, both added make 1334 yearly; this makes a yearly Waste of at least 300, to glean out of the Country, only to keep up the present Stock of Inhabitants, and no Increase, which must be from the Country or Strangers. If from 1737 to 47 the Medium of yearly Buryings were 2360 (and no separate Burying Places); then the Number of Inhabitants would be about 59,006. Again, as the Number of yearly Births were about 1501, then the Number of Protestants were about 42,000, and Catholics about 17,000; or the registered Births are to the unregistered, as 42 to 17: Thus, if the whole yearly Births were registered, they would be 1930; that is, 430 fewer than the Buryings. In 1695, Capt. *South* says, That all the Souls in the County of *Armagh*, being numbered exactly, were 25,640; and in *Louth*, 17,283; in *Meath*, 43,319; and in all the rest of the Kingdom of *Ireland*, 907,432; and in the whole Kingdom, 1,034,102. From 1715 to 47 (exclusive of 32, 37, and 38) were buried 80,366, of which 41,269 were above sixteen Years old; and 38,304 under that Age; 2965 Difference. But we find the latter Years healthier than the former: For from 1715 to 29, died, above sixteen Years old, 20,445; under sixteen, 21,775: From 1730 to 46, died, above sixteen Years old, 20,814; under sixteen,

sixteen, 16,529; near a Fifth Odds in Favour of the Children (much the like we observed in *London* lately); so that now *Dublin* seems much healthier for Children than either *London* or *Edinburgh*. There were baptized 44,314. This Disparity is only from the great Number of Catholics there. In 1745, the exact Number of Families in *Dublin* was taken, which were 9214, whereof 3575 were Papists, who all have their own Burying Places; then Protestants were to Papists as 14 to 9. The Medium of yearly Births in 1745 was 1448; the Burials, 2662; the Protestants then were 5739. As this is a Metropolis, if we allow six Persons to a Family, (as in *London*) the Number of Inhabitants would be 55,284; but 2662 being too high a Medium, and 2360 (as above) being the true Medium, then the Inhabitants will be above 59,000. Here again recurs the Increase of Popery betwixt 95 and 45; in the former, Protestants were to Papists as 42 to 17; in the latter, only 57 to 35; which could not be, were Parents, Masters, and Ministers half as diligent in instructing and catechizing Children and Youth as Papists are; the remiss performing hereof there, and the unsuitable Lives of many Parents and Clergy, cause the Increase of Popery among the Populace, and of Infidelity among higher Ranks, both there and here.

We know little of the Policy of *Edinburgh*, besides a small Scrap from *Maitland*, and a little from the *Gentleman's Magazine*. From 1702 to 47 were buried in it, Men, 10,129; Women, 13,279; both, 23,408. Children and Youth, 25,398; in all, 48,806; 1990 more died under sixteen or eighteen Years old; (for under that they cannot properly be called Men and Women). This City is remarkably fatal to Children, and seemingly more so to Females than Males; one 24th Part more die in Childhood than live to grow up. It sends out many Emigrants, since 3150 more Females die than Males, (tho' more of the latter are born) including Strangers and Recruits from the Country, which die there; few of their virtuous Women we see are Travellers or Strollers. *Edinburgh* and *Norwich* are pretty much of a Size; the annual Medium of each of their Bills of Mortality preceding 1742 was, the former buried yearly $1176\frac{1}{2}$; the latter, 1131. *Edinburgh* has nine Churches within the Walls, wherein were buried, from 1741 to 47 inclusive, 7369; and four Churches without the Walls, wherein were buried 5142; both, 12,511; Medium, 1766, exclusive of the Quakers Burying Place and the Castle. All the Out-Parishes only give in Males and Females; St. *Cuthbert's* alone gives the Ages; in it died, in the above seven Years, Men, 422; Women, 579; Children, 1637: So that 1637 Children die for 1001 grown up.

up. And in the nine Parishes within the Walls, 25,398 Children died for 23,408 grown up. So that we know little more of *Edinburgh* than of *Algiers*, which (as the Modern Universal History saith) contains 117,000 Souls, besides *Europeans* and Strangers: Or *Tunis*, which has 1600 Houses and 10,000 Souls: Or *Fez*, which contains 54,000: Or *Morocco*, 100,000 formerly, now scarce 33,331: Or *Tetuan*, 800 Houses, besides 170, wherein 5000 *Jews* are crammed up, which is $29\frac{1}{2}$ to a House.—*Tagost* has 8000 Families.—*Tessul* 4000.—Allowing 24 Years to bury a Number equal to the present Inhabitants of *Edinburgh*, (which is too long, considering it's Unhealthiness, Courts of Justice, University, the Winter Resort out of the Country) the Inhabitants, Families, Retinues, &c. then would consist of about 42,528 Souls. *Maitland* gives the Increase of the nine Parishes within the City, from 1663 to 70, buried, 6244; Medium, 892; from 1741 to 48, buried, 7369; Medium, 1054; only 134 Increase. This City (which is to *London* as 1 to 15) is more fatal to Children than either *London* or *Dublin*.

The next Question is, Whether *London* is now upon the Increase or Decrease? And this Question would be best answered by the Bills, could they be depended on, (as they cannot) but shall give them as they are.

Years.	Born.	Dead.	In the first and second Decades we had domestic Divisions, and long, foreign, expensive, bloody Wars with <i>France</i> ; yet, in the latter End thereof, the City increased a little. In the third Period we enjoyed a profound Peace, and the City increased near a sixth Part. In the fourth, Peace continued till the latter End; then nine Years War with <i>France</i> and <i>Spain</i> began. In the fifth, the City Burials decreased about a ninth Part, and two Ninths in the Christenings. In the last Decade began a bloody War with <i>France</i> : At last <i>Spain</i> and <i>France</i> joined, both in <i>Europe</i> and <i>America</i> ; yet the Births increased a Tenth, and the Buryings fell near a Sixth.
1691 to 1701	149383	207700	
1701 to 1711	156236	214611	
1721 to 1732	181486	274092	
1732 to 1742	165436	271832	
1742 to 1752	144311	242372	
1752 to 1762	159274	204632	

After the Plague had been less or more in *London* from 1592 to 1604, and from that to 1612, eight Years, wherein died of it, in the City, 14,748. From 1612 to 25 (wherein only 257 died of it) were born 100,338; buried, 108,318; not 620 more buried than born. But the healthiest Time of the City was from 1626 to 36; wherein was a yearly Increase of 87 more born than buried, from the great Plague of 25 having carried off the Aged and Infirm. In these Times the City was far more unhealthy than

now, for *Grant* says that then 60 of every 100 died under 16 Years old, and 36 under 6 Years old. But this State of Health soon altered after the Restoration, (which brought along with it an universal Deluge of Licentiousness and Debauchery) when the Medium of yearly Births was 11,944; of Burials, 18,431, near 12 to 18 $\frac{1}{2}$. To such a debauched Prince, Court, City, and unwholesome Air, 24 Years are too long a Time to be allowed to bury a Number equal to it's Inhabitants, exclusive of Strangers and Incomers. Many of the Citizens' Children born then, being weak and languid, only enjoyed a short, miserable Life, to proclaim the Shame of wicked, wretched Parents. *Dublin*, at this Time, was $3\frac{3}{4}$ of *London*.

Grant and others impute the great Defect of Christenings to be from the Number of Dissenters; for, say they, Births and Burials were near equal. But here we find the Odds are 12 to 18; then the third Part of the Inhabitants must have been Dissenters; which is false: For in all the above six Periods the Total of Baptisms is 956,126, and the Buryings are 1,415,339, which is 105,378 less than three Fourths of the Burials, tho' only Church-People baptize; and they and some others bury there: Dissenters having their own Burying Grounds, as well as private Baptisms; and yet this Difference between Christenings and Buryings still subsists, tho' the Number of Dissenters is greatly decreased in general. But this Difficulty might easily be surmounted, would the Publishers of the Bills of Mortality favour us (as they have been often called upon to do it) with the legal yearly Marriages, all these being solemnized by the Church; and of this Deprivation all our three Metropolises are equally guilty, proclaiming to the foreign World all their Offsprings to be Children of Whoredom, who have no public Vouchers to shew that their Parents were married; for, without a true Account of the Marriages, Bills of Mortality are defective in some of their most important Uses.

But to explain this Affair as far as our Credentials will bear. From 1740 to 47, Baptisms in *London* were 101,900; Medium, 14,556; Burials, 185,722; Medium, 26,532; here is the yearly Odds of 11,976, tho' Dissenters have both their private Baptisms and Burying Grounds, and also many Foreigners. If we take the Medium of Buryings from 1724 to 38 inclusive, which (including above 70 Burying Places belonging to the City, but never entered in the Clerks' Hall, nor published in the Bills) is 29,996; this, multiplied by 24, gives the supposed Number of the then Inhabitants within the Bills of Mortality, which is 719,904, only 6000 short

short of Mr. *Maitland's* Computations; tho' *Grant* and *Petty* extravagantly allow eight Souls to a Family, we hope to give a more certain Computation.

From 1728 to 58, in *London* were baptized 439,276; to which add, Abortives and Still-born, 17,452 not registered; but the registered are 44,834. Both make 456,776. The whole Burials are 750,322; from which subtract the whole registered Births, remain 293,546, the Number hereby supposed to die under 16 Years old. The Number that died under 16 Years old (including Abortives and Still-born) is 272,903. From 2 to 5 Years old, died 64,745; from 5 to 10, died 25,912; from 10 to 20, died 12,891; in all, 376,451. Above 20 Years old, died 363,871.

After 1748 the Death of Children dwindled, tho' the Articles of Abortives and Still-born were retained: For of these died under 15 Years of Age, 364,705, there remains 385,617; which, according to the ingenious Mr. *Morris's* Calculation of every 1000 born, 485 die under 10 Years old, and 15 or 16 more before 15, and 14 under 20; that is, 500 in full: But in *Grant's* Time, 100 Years ago, 36 of each 100 died under 6 Years old, and 24 more between 6 and 16; which is 600 of every 1000, and is 115 more than *Morris's* Computation at 20. No Wonder, if so, that the Mortality of Children decreases, and that of Adults increases. In *Grant's* Time more Abortions and Still-born had been, and were registered, than now; for the Ages were not published before 1728.

From 1728 to 38, died under two Years old 103,159: From 38 to 48, died 91,476: From 48 to 58, 78,258; in all 272,903, from 2 to 20, as above. The Calculations stand thus: From 1728 to 38, buried, by the City Register, 750,322: From 60 to 70 Years old, died 53; 70 to 80, 45; 80 to 90, 23; 90 and above, only 4. Of all the Totals in the last 30 Years, only 242 lived to be 100 and above, only a poor *Scots* Highland Woman was 138. Of every 1000 born, 550 live five Years (says Mr. *Morris*) 516 are 10; 485 are 20; 408 are 30; 312 are 40; 215 are 50; 235 are 60; 72 are 70; 27 are 80; 4 are 90, and above.

Several Things have probably contributed to the seeming Decrease of *London*: As, *First*, A greater Use now, than formerly, of several other Ports and Harbours for Imports and Exports of Goods, which before were chiefly to and from *London*, together with fundry Navigations made from these Harbours to many Inland Towns in the Country; which Conveyance, being cheaper and easier, has occasioned more Trade in the

Inland Countries. *Secondly*, The late great Improvements in, and Increase of, our Manufactories, which now supply both home and foreign Marts. *Thirdly*, A great Number of new Villas or Country-Seats within a moderate Day's Journey of *London*. *Fourthly*, The late great Improvements of Roads, formerly unpassable, or dangerous to travel in Winter, but now safe at all Seasons. *Fifthly*, The Duration of the two late Wars for 23 or 24 Years, with only 7 Years Interval. *Sixthly*, Many go and settle abroad for Trade, and to our Colonies and Plantations: From which, and the like co-operating Causes, the late Sir *William Petty* wisely foresaw that *London* must be at it's full Zenith at or before the Year 1800.

London Air is not so justly chargeable with the Excess of Burials to Births, as *Grant* and some others have imagined, as appears from several Places worse situated, yet make less Waste of Mankind, and rather send out than receive Supplies; whereby it is evident that a right Policy, judiciously established and carefully maintained in large Towns, would prevent much of that Waste which has been made. For though *London* lies low, yet it stands and is surrounded with fine dry, sandy, gravelly, pebbly Ground, and small rising Hills, from which it is constantly fanned with fine fresh Breezes from the Neighbourhood of the *Thames*; and is now supplied with good fresh Water, and has no large Forests of Wood, nor putrid stagnant Waters, nor extensive Fens; it's Filth may be easily washed off twice a Day by the Tide. No canine Grotto's, nor Volcano's near it. Many of it's Streets have been widened, made straight, raised, paved with easy Descents to carry off the Water; besides Wells in most public Yards, and Pipes for conveying Plenty of fresh Water to keep them clean and sweet; many late stately Edifices, large clean Courts, lofty Rooms, large sash Lights, &c. And many excellent Conveniences, both by Land and Water, for supplying the City with fresh Provisions at moderate Prices; all which must contribute, not a little, to make the City more healthy now than in *Grant's* Time; especially if, at the same Time, Magistrates were very vigilant and diligent to maintain a good Policy, by promoting Virtue and suppressing Vice, and a faithful Execution of the Laws against Intemperance, Irregularities, and Debaucheries.

It also appears from the Tables and Ages, that virtuous temperate People, of most Constitutions, begotten of the like Parents, often live as long in *London* as their Neighbours in their own native Soil. But to discover the true Degree of Health which this City formerly had, even so late as the Beginning of it's Registers in 1604; let us look to the two
first.

first Vicennaries, and we shall find, that as the City increased, so did it's Mortality in all after Periods. In the third Vicennary, Anarchy and Confusion prevailed. In the next 28 Years reigned first a masked, then a professed Papist, under them Slaughter, Murder, Banishment, Confiscations, Imprisonment, Rapine, and Oppression of all that were virtuously disposed; the utmost Licentiousness, Prophaneness, and Immorality prevailed, till justly-provoked Heaven visited the City with two remarkable severe Judgments, *viz.* Fire and Plague.

First, One Stop to the Health and Increase of the City, was the shocking Deluge and Prevalence of Vice, especially Swearing, Drunkenness, and Whoredom, and their Effects: It were to be wished that a more effectual Stop could yet be put to them.

Secondly, Another fatal Engine for the Waste and Destruction of the Strength, Health, Intellects, Morality, and Religion of the Populace, both in City and Country, was the preparing and Consumption of incredible Quantities of Spirituous Liquors, a Poison producing Madness, Wickedness, Diseases, and Death, (as tho' other Liquors had been insufficient.) This Engine began to diffuse it's pernicious Effects in 1724, at the very Time when the City began to be more fruitful and healthy than it had been since the Restoration. How powerfully this Poison wrought, let us now see: From 1704 to 24, were born, 336,514; buried, 474,125. Let us allow fourteen Years for this dire Bane to spread, operate, and become epidemic; then from 1738 to 1758, were born, 296,831; buried, 486,171. Here we have two shocking Effects of this bewitching Liquor: First, Here is a greater Barrenness, a Decrease or Want of 40,000 of ordinary Births, which the last Vicennary produced, instead of an Increase, as we had in other late Vicennaries. Secondly, An Increase of 12,000 Buryings, tho' there was so great a Defect of Births. This increased Mortality fell chiefly on Adults, which adds greatly to the Loss, as they were the most useful. Since this was the Case in one City, how fatal must it be over the whole Island? How was it possible then for the like Proportion of Children to die, since they were neither begotten nor born? This is a clear Arithmetical Demonstration of the cursed Effects of this stygian Poison. This plain Evidence is enough for the Legislature to suppress it's Use, by laying Duty upon Duty on Spirits. The Controversy about Spirituous Liquors is, I think, fully discussed by the *Monitor* in the *Gentleman's Magazine* for January, 1760, p. 18, and in the same Magazine for 1759, p. 114, and 630.

Thirdly,

Thirdly, Another Reason why Burials so far exceed Christenings, is a greater Resort now, both of Subjects and Foreigners to the City, on various Accounts, far more than in King *James* the First and King *Charles* the First's Reigns; Parliaments then were both rare and short, or met at other Places, and Trade was much less.

Fourthly, Another Cause of greater Sterility and Mortality, is the greater Incontinence and Indiscretion of too many, both Youth and Adults, who expose themselves to the Dangers of early, illicit, and excessive Venery, as well as to venereal Diseases and their Effects, rendering Youth weak, feeble, and enervated, or emasculated, diseased, and useless, as well as pernicious to their puny languishing Offspring, should they have any. Nor is this Disease now confined to the City or great Towns only, but is become too common in the Country.

Fifthly, Another Cause is Luxury in Dress, Diet, Drink, Revelling, unseasonable Hours, and Debauchery; these are slow, but sure Back-Doors for Diseases and Death to surprize the Thoughtless and Secure. These are a few of the Causes why Buryings exceed Christenings, to remedy which, a good strict Policy is necessary.

From 1601 to 1762 (supplying the Want of 1601, 2, 3, by 1592, 3, 1603) was born in *London* in 161 Years, 1,847,228; buried, 3,075,368; *i. e.* 1,228,140 more buried than born, which is the true Number of Supplies the City has drained out of the Country in that Time of the City Register, over and above it's own Produce; besides the Increase of the Populousness of the City, and the Drain out of the Country for the Sea, Colonies, Plantations, and Garrisons.

If we begin the Account with the Revolution in 1688 to 1762, (during which 74 Years there was no Plague here) the Country Recruits have been 568,165. And this Supply has not been a Drain of Children, or aged, weakly, infirm, decrepid, lame, sick, maimed, or languishing Persons; but of the most sprightly, robust, healthy, effective Youth in their Prime, the Flower of the Country of both Sexes. Upon which the ingenious Mr. *Morris* justly observes what great Loss this has been to the Nation, not only for the City, but all the Cities and great Towns in the Kingdom, which may be deemed as so many Slaughter-Houses of the People of the Nation. Hence we are not so populous as might be, nor are we able to people our Colonies and Plantations, or raise a strong Marine Force, with-
out

out weakening our Husbandry and Manufactures. Hence we are obliged to hire so many Auxiliaries in Time of War; hence also our Scarcity of Servants, and their high Wages. From this also our Enemies, in Time, must undersell us in all foreign Marts. Hence the Cause of our so many common and uncultivated Grounds, the Taking-in and Cultivation of which must thin the Hands; at the same Time we are sending large Numbers of Subjects abroad to our new Colonies; and at the same Time so many Impediments to Marriage subsist, as we shall see after: For besides those that went to *London* to Service and Apprenticeships, many have been Scholars, and brought up in Sciences, Trades, and Manufactories.—Tho' the City has increased and had it's Product, yet to that must be added it's Recruits from the Country. Allowing *London* to send it's Exports to *America* or elsewhere (some whereof are made up out of the Country Recruits); yet besides the City has it's Imports from *France* and other Places, who as they are not baptized in *England*, so only those that died in the Communion of the established Church, and were buried by it, are entered in it's Register and published; for most Foreigners now have their own Burying Grounds near the City:—"For (says Mr. *Morris*) can it be seriously averred, that had these Recruits continued in the Country, could they have been of no Benefit to the Public? What (says he) would they have added nothing to the Improvement of the Lands of this Kingdom? And has no Loss really accrued to this Nation from the Loss and Waste of Country Youth and Adults? Let all the Counties of the Kingdom be summoned to bear Testimony: Let Country Gentlemen and Farmers be called out and declare.—Have they not continually, for many Years past, an increasing Want of Husband-Men and Day-Labourers? Is there no just Complaint thorough the Nation, of the increasing Wages of Workmen, and of the Impossibility of procuring a sufficient Number at any Price? This being the Case—Is it not an Evil most destructive and fundamental? Is it not attacking the great Sources of our National Wealth, our Produce of Corn, Wooll, and all other Sorts both of our Provisions, Hands, and Materials for our Manufactories? Is it not diminishing the annual Growth in general, and raising the Price of what is grown, without Advantage either to Landlord or Farmer? Is not this the direct Course, by raising the Price of Provisions throughout the Kingdom, to raise our own Manufactories to a monstrous Price, and stop their Exportation and Sale, by our Neighbours underselling us in all Marts? The sure Consequence of this will be to encourage Importation at cheaper Rates, and smuggling upon us from abroad, which must export that Wealth which our prudent Ancestors had procured for us, and oblige our
Manufacturers

Manufacturers to seek Employment and Bread in other Countries, leaving a poor, weakly, debauched Spawn behind them, unworthy the glorious Name of *Britons*; their Country a Prey not worth taking; and their Posterity despicable Slaves to their new Masters."

These are a few of the dire Consequences of the yearly Waste and Loss of so many Recruits from the Country! These are Evils which challenge the Attention of all Country Gentlemen! This Consumption is upon them chiefly, and will continue so, for the City will have Recruits whilst there are any in the Country. This is not the Citizens' Concern, but the landed Men's; and it is both theirs and the Citizens Interest so to regulate the City Policy, as that yearly Births may come near to, or exceed, the Buryings. We saw before that such a Policy is not impossible, seeing, from 1604 to 1624, there were not yearly 500 more Burials than Births..

Another great Evil ensues on such Crowds going to *London*, whether Noblemen or Gentlemen's sumptuary, unnecessary Servants or others, when they return again into the Country, they bring along with them, spread and infect the Country with the City Vices and Immoralities, Swearing, Drinking, Idleness, Whoredom, &c. But were a laudable, useful Policy established, and Marriage encouraged, the Effect would be the Growth of all the useful Products in the Country, and the Improvement of all Lands; this would be greatly promoted, Cities and great Towns would want small Supplies, and few in the Country needed go there for Business.

Having seriously, and with Concern, considered the deplorable yearly Loss and Waste of the Flower of our Youth, the Strength and Hopes of the rising Generation; the strong, healthy, and useful Persons drained out of the Country to recruit Cities and Towns, to preserve their present Numbers and Increase, which otherways must lessen yearly.

Surely, reflecting on the above great Mischiefs ensuing on this Drain, it must affect every true Lover of his Country and all that can be dear to him, and call up every honest Man's Thoughts how it may be remedied, and by proper Policy put a speedy Stop to, as it may be cured by the Conduct and powerful Interposition of the Legislature, by their own Practice, and the Assistance of good, wholesome Laws made, and faithfully and impartially executed, otherways they will avail nothing. The Method is only to prevent the great Disproportion of Buryings to Christenings, which has formerly been done there, and lately done in some other Places, and may be

be done again, (the Plague and some extraordinary Epidemics excepted.) Some Things have been done that Way, as mending the Air and Water of the City, and taking Care for Plenty of good Provisions.

To make the Nation more populous, Cities and Towns more healthy, and Youth stronger and hardier, these three Things challenge the most particular Regard.

First, Encourage Marriage.

Secondly, Suppress Vice and promote Virtue.

Thirdly, Mend the Air.

As to the *first*: Let Marriage be encouraged by all prudent and laudable Means that are possible; for this is not only the great Appointment of Heaven for the Increase of Mankind, but is in itself the chief Source of the social Affections, and the only natural Obligation for the Education and Support of a succeeding Generation. For as it may be easily made appear how directly opposite to this Design the building and endowing of *Foundling Hospitals* is; and how much they tend to encourage promiscuous Whoredom, Adultery, Incest, and other Vices and Immoralities, (and to discourage Virtue and Morality) to the weakening and incapacitating of Youth for procreating strong, healthy Children, and rendering the Women barren, and in so far depopulating their Country, and exposing it to the Inroads and Attacks of it's Enemies, as well as the Contempt of it's Neighbours, and Grief of it's true and virtuous Friends: So nothing can reflect more Honour on the Christian Name and the Reformed Religion, and tend to the Encouragement of Marriage, among the Poor especially, who are the great Strength of every Nation, than the building and endowing of Orphan Hospitals, for the Reception and Education of indigent, helpless Children, whose Parents by Death, or by being in the Service of their Country, or by long Sickness and it's Consequences, Losses, Want, or Decay of Trade, and perhaps, at the same Time, a numerous Progeny, have brought them to Want and Misery. The Parents or next Relations, or Church-Officers, bringing along with such Children, from exact Registers, or Incumbents of the Parishes where their Parents were married, well-attested Certificates of the legal Marriage of the said Parents, and of their present necessitous Condition, with the Causes thereof, and of their Sobriety and Industry. Let a Tax be laid on Batchelors, and be wholly and truly appropriated to the Support of such Orphan Hospitals: Which Tax the Government may raise or lower as there is Occasion, without laying a Penny new or further Taxes on the rest of the Subjects on that Account. Nor should the Servants to Noblemen, Gentlemen, or Persons of Fortune,

be exempted from paying the Batchelors' Tax: Nor should Persons of Quality keep or retain needlers, supernumerary, sumptuary, unnecessary Servants, increasing the useless Expences of their own Family, and depriving the Public of the Service of young, healthy, active Hands. These Taxes laid on, and faithfully and impartially collected, (tho' a small additional Tax) might answer several valuable Purposes; as, first, They would promote the great Design, *viz.* Marriage, and strengthen the People. Secondly, They would make the public Taxes easier in Time of War. Thirdly, Many Families of poor Children would have a Resource for Help, which would lessen the Poor Rates. Fourthly, Much Wick- edness prevented. This, and other necessary Measures pursued, would supersede the Use of Foundling Hospitals. And at the same Time it would be necessary to have good Laws made, and faithfully executed, against Whoredom, and all Kinds of Uncleaness, Idleness, and Drunkenness, and all Means of preventing or weakening Conception, or procuring Abortion. Such Methods would answer noble and useful Purposes; nothing could encourage the Marriage of Youth more, nor promote an Offspring of vigorous, lively, healthy Youth; such have been observed to be the Staff, Strength, and Stay of the State, as well as of the labouring Part of the Nation; for the Progeny of the Middle-aged are fitter for Thought, Study, and Contemplation; that of the Aged brings too much Phlegm, Pusillanimity, and Gravity. Neither of these are so fit for brave, bold, arduous Undertakings, as the *Children of Youth, that are as Arrows in the Hands of mighty Men.* It is the Family or Nation of such, that are neither ashamed to treat with, nor meet their Enemies in the Field. Whoredom and Wine take away the Heart, Courage, and Understanding; they glow in the Company of *Bacchus* and *Venus*; but are neither fit for the Field of *Mars*, nor the Council of *Solon*. *Venus's* Devotees, *they commit Whoredom, but increase not in Proportion*: See the Fate of their small Issue, it is *far from Safety, it is crushed in the Gate.* Such were the Observations of antient Sages; yet such is the Brood we build Foundling Hospitals for; tho' the same Sages tell us they are only the *Spawn of the Foolish*, and are mostly *crushed in the Gate*, or in the Bud, or Rise, of a languishing Life. And this, we see, holds good to this Day; for fewer Bastards live and come to Maturity than lawfully-begotten Children, in Proportion to their Numbers: And the best Foundling Hospitals verify this still, tho' Bastards may sometimes be the Progeny of vigorous, gay, healthy Youth, whose lawfully-begotten Children might be strong and courageous. Hence such Erections seem a bold Attempt to climb to Health, Strength, and Longevity, in Opposition to the stated Method appointed by Heaven.

But

But their Excuse is, That such Hospitals are designed to prevent Infanticide. But it may justly be asked, Where lies either the Piety or Policy of a Design which discourages Marriage, the Appointment of God, and the Custom of all Nations, and encourages Whoredom and Adultery, which are opposite to the very Ends of Marriage, *viz.* to be *fruitful and increase*. It is very obvious that for one Bastard murdered now, when so many wicked Arts are daily used to prevent Conception and cause Abortion, six lawfully-begotten Children are lost for want of proper and necessary Provisions and Care, from the Death, Absence, Misfortunes, Idleness, or Indigence of Parents, who are destitute, or pinched of even common Necessaries to keep them upon; and several Times Overseers put them out to Nurse, at lower Prices than can now possibly be afforded, whereby they are sometimes neglected and starved, which is a crueller Death than Murder, as one is slow, and the other is instantaneous.

2. This Method would tend to make us a strong, respectable, populous Nation; there would be less Occasion, in Time of War, to hire so many foreign Auxiliaries, or to impress Men into the Service, when Parents knew that, in Case of their Death, or during their Absence, the Law had so well provided for their Children.

3. The Batchelors' Tax would be paid more chearfully; Trade and Husbandry would soon be better supplied with fit Hands, at lower Rates; Provisions would be more plentiful, and cheaper; foreign Markets would be better stocked with our manufactured Goods, at lower Prices and readier Sale; our Colonies and Plantations better peopled and strengthened; our Imports in Trade increased and greatly improved; much Whoredom and Wickedness would be prevented at home; Fruitfulness restored by legal Restraints; and no Occasion for promiscuous Coitions and nefarious Practices. Yet all these great and noble Ends answered without a Penny new Tax laid on the Public, (as were the late scandalous Proposals for a yearly Tax of 45,000 *l.* on the Nation for a Foundling Hospital) only the Batchelors' Tax, which may be varied yearly, as there was Occasion from Dearth, Famine, Epidemics, Sickness, Mortality, the Want or Decay of Trade, the Number of married Men going into the Army, Navy, or Plantations. It is true some Youths, to shun the Batchelors' Tax, would give out to be younger than they are; but applying to the Parish, or Dissenters' Registers, where they were born, would discover that Fallacy. But if there was a Resolution to promote Wickedness by a Law, that may be just as effectually done, and bring Money to the Government, by building and licensing public Stews.

As most People desire healthy, strong Children, such being the visible Support of themselves and Families, and the rising Bulwarks and Guardians of the State; and if Parents would hope for Comfort in them, it is their Duty, both by Example and Instruction, early to instill into them the Seeds of Virtue and Morality, and cultivate a Growth and Perseverance therein: And it is the common Interest both of Church and State heartily to join their Assistance, by enacting and executing Laws to suppress the First-Buds and After-Growth of all Vice, especially those justly condemned (but neglected to be executed) by the present Laws; as Swearing, Drinking, Sabbath-breaking, Whoredom, Adultery, Pilfering and Stealing, and the unnatural Gratification of sensual Pleasures; these opening the Way, and leading on to the most criminal Practices, which often terminate in a shameful, miserable, and untimely End: Besides all other Evils, these tend, directly or indirectly, to the Prevention of true, innocent, matrimonial Satisfaction, and Procreation of a strong, healthy Progeny. A Neglect of this former Policy, and a manifest Disregard to former Laws and Methods appointed both by Church and State, has occasioned a shameful, culpable Licentiousness, under a pretended, but false, Name of Liberty; or a Liberty to live wickedly, in open Contempt of Laws both Divine and Human.

Conception is often hindered by promiscuous Coitions; which is the Reason of castrating tame Brute Animals, to make the Females more fruitful; thro' Want of it the Wild are more barren. Where there is Propagation by Whoredom, it is mostly by one Man; not by several immediately before Conception. From a Mixture of several genital Liquors of the same Species, or by excessive Venery, both Male and Female become barren: Hence common Prostitutes (whilst such) rarely conceive; who yet, when married, and faithful to their Husbands, breed and bear as well as other Women: But this is no Evidence of their former Virtue. If an unmarried Woman conceives, it is a strong Presumption she had had to do only with one Man, some little Time previous to her Conception; therefore such Conceptions are frequenter in the Country (in Proportion to the small Numbers of, and present Practice of Whoredom) than in Cities and great Towns, where That and other Vices are more prevalent, and the wicked Arts of preventing Conception are more generally known and used: Hence Country Girls and kept Misses have a better Chance for Children than common Prostitutes. Early or excessive Venery enervates, and almost emaculates Youth; so far, that if they have Children after, yet their Father's Constitution being weakened, his Fortune

tune lessened or ruined, a loose Habit is contracted, that their Amours can scarce be confined to the Marriage Bed: Hereby the injured innocent Party is wronged; and often the Honest, Virtuous, and Laborious are obliged, in some Shape, to contribute to the scanty Maintenance of an unfortunate, spurious, adulterous Brood of a feeble, languishing, mostly short-lived Race of inglorious Mortals, often tainted with the dire and indelible Effects of their Parents' Vices.

As Marriage is to be encouraged and promoted, so the opposite Vices should be suppressed (without the latter, the former Design will in a great Measure be defeated) by such Laws as, being faithfully and impartially executed, would directly tend to prevent them. And sure it is not impossible but such Laws may be made here as well as in other Countries. Such as these: If a Man get a Woman with Child, let him be obliged to marry her, or sent to remain for Life in some of our Colonies. Or if any unmarried Person, in Commission, needlessly, or unnecessarily and secretly, frequents or haunts a Woman or Women's Company, especially at unseasonable Hours, or in private Places; if he be reproved by his superior Officer, and threatened if he continues that Practice; or if he cultivates a culpable Intimacy with any Woman or Women, that he be cashiered and his Commission taken from him: If, unmarried, he gets a Woman with Child, let him be obliged to marry her, or give her a Fortune suitable to his Rank and Ability, and settle an Annuity on the Child, if there is one, for it's Nursing and Education till it is 13 Years old, and then put it to some Trade or Business, where it may be well used. If he refuses, or is unable to comply with these Demands, let his Commission be taken from him. Or if the Father is a private Man, and cannot do those Things for the Woman and Child, let him be impressed into the Army, or transported. If a private Soldier lie with a Woman, let him be punished by Martial Laws, and the Woman sent to the House of Correction, there to be kept to hard Labour. If a Woman is guilty, and is convicted of several Acts of Whoredom, let her be transported. If a Man or Woman is guilty of Adultery, either with single or married Persons, let half of the guilty Man's Estate be forfeited to the Poor or Public Service, and the other be settled in Trust for the Benefit of the injured Person and Children, (if there are any) and the Gallant left to the Discretion of the injured Husband or Wife, and the Adultress left to undergo such Pains and Penalties as the Laws in that Case require, and let the Husband divorce her, if he pleases; or if it be that the Husband keeps her for a lucrative Prostitute, let both be punished severely. Such as are proved
guilty

guilty of unnatural Gratifications of their Inclination, or use Arts, Instruments, or Methods to prevent Conception or cause Abortion, let all such suffer according to excellent Laws in that Case to be provided, and the Instrument Maker be punished or hanged with the Criminals. It was with this laudable View of promoting Marriage, and preventing Whoredom, Adultery, and all unlawful Gratification of sensual Pleasures, and to beget healthy strong Children, that the brave martial *Romans* used Infibulation, till Youth was fit for Marriage. It is also proper that all Clergy (especially such as have Livings) should be married, and set Examples to their Flocks, of Temperance, Chastity, Charity, Morality, and Benevolence. Let the antient Discipline of the Church, for punishing Offenders, be restored, but not abused, as formerly, to the most scandalous Purposes, which occasioned that Power to be taken away; and the Lives of many of the Clergy rendered that Function contemptible.—As to Drunkenness, Swearing, Sabbath-breaking, &c. let the good Laws that are still in Force against them, be executed with the same Diligence as against Theft, Burglary, Robbery, &c. Justices remembering they judge not for Man, but for God, to whom they must account; and knowing they transfer Guilt to themselves by passing by the Offenders, whereby they become more hardened.

All Tenants (especially young Couples) should hold their rented Ground on a Lease of 21 or 25 Years, to put them on exerting their Ingenuity and Industry in improving their Farm to their own and the Landlord's best Advantage. Nor would a Clause of Reversion be amiss in their Leases, that the Tenant have a Refusal of the next Lease, in Consideration of the Expences and Labour he has been at in Improvements; for hitherto the Tenant may have little or no suitable Profit, but he, or his Heirs, might hereafter reap some Advantage, and the Landlord also. Without some such Security, only Fools will expend their All on Uncertainties; for the Landlord may be a Man of strict Probity and Honour, yet he is mortal, and his Honour may be laid in the Dust with him; and, if his Heir does not think himself bound by his Predecessor's Promise, Honour, or verbal Bargain, what has the Tenant to trust to? The Tenant should also be bound, in his Lease, to make such reasonable Improvements as may be useful and profitable, and the Rent regulated according to the extraordinary necessary Expence, which the Tenant can always do cheaper than the Landlord, when proper Directions are given. It also conduces to the Public Good, if, in all Leases, the Landlord would oblige the Tenant, in every Farm, to keep always a certain Number of Acres of it in Corn yearly,
and

and such a Number in Meadow, so many for Pasture, and so many in Fallow; and let the Steward see that this Part of their Covenant is fulfilled, upon the Penalty in it. Hereby, in general, a due Balance might be kept between Corn and Grazing, or Animal and Vegetable Food; for, if it is left to the Farmer's Discretion, he will mostly contrive that one, if not both, shall be dear: For, if Corn is plentiful and cheap, the next Year or two he plows and sows little, but grazes much; if Meat is plentiful and cheap, he lessens his Stock, and plows more; so that one or other shall be dear as he pleases. This Piece of Policy pursued, Agriculture will be encouraged, the Increase of People promoted, Markets generally kept moderate, the Nation strengthened, riches increased, and Labour done cheaper and better.

Another Inducement to Marriage, would be putting an immediate and effectual Stop to the inclosing of Arable Grounds, (even some of the best) as many, even in the Center and most populous and fruitful Places of *England*, are, and turning them into Pasture and Grazing Grounds for Cattle: A most impolitic Scheme, and has been shamefully practised of late; and many Thousands of Families ejected; and this not only out of some few Places, Villages, or Parishes, but out of whole Corners of a Country or County, so as only to leave Room for a Shepherd, or Cowherd and his Dog; than which nothing could possibly be contrived more everfive of the above noble Designs, nothing more inconsistent with true Policy, Prudence, Interest, Religion, and Humanity. Hereby Thousands of Families and Souls have been exposed to the Danger of perishing, or the Necessity of transporting themselves (as some Thousands did in 1716, 17, and 18, and like to be so now in *Ireland*); or becoming Servants, Slaves, and Drudges to their late Servants. Such desolate People's Children are prevented from marrying, tho' their Parents could lately provide decently for their Marriage; but as the former Laws were implicit and unchristian, should new Laws, more cruel, be made to prevent such unhappy Sufferers transporting themselves to our own Colonies or elsewhere, this would be to starve them at home, to give the Poor the Pleasure to be starved and die here, and be laid amongst the Dust of their Ancestors. The deplorable Case of the North of *Ireland* in 1717 and 18, may yet be remembered by many, when Landlords, by racking their Tenants' Rents beyond Reason and Humanity, occasioned such Numbers of Families to transport themselves to *South-Carolina*, as almost depopulated the Country, and Landlords were glad to lett their Lands at a third or fourth

Part of the late Rent. The sure Consequence of such Courses of inclosing and racking, are, depopulating a Country, weakening a State, stopping Manufactories, Trade, and Agriculture, thinning the Army and Marine, and exposing all to the Inroads and Attacks of it's inveterate, powerful Enemies, whom that State is supporting, increasing, and strengthening with it's Produce, Money, and Provisions. It would also be prudent to repeal that old Act against building Cottages on Wastes, without laying some Acres of Land to them: An Act against true Policy, calculated for the Discouragement of Marriage, Decrease of Mankind, and weakening a Nation.

Another Encouragement to Marriage, would be dividing, taking in, and cultivating improveable Commons, Forests, and Waste Grounds, making such Allowances out of them for the Poor, (in Lieu of their former Advantage) as the Wisdom of the Legislature thinks proper and just; and ordering that such Allowances shall be perpetual, without being turned to a Property by any other. Such Lands might be preparing for more beneficial Purposes, whilst divided Town-Fields were cultivating and peopling. For a Motive hereto, we see many seeming rough Wastes, formerly thought incapable of Cultivation, are, by great Labour and Industry, found the most healthy and populous; as about *Halifax, &c.*

Another Means to promote Marriage and the Increase of People, is to make Laws for dividing Town-Fields, which are mostly open half of the Year, and sometimes the whole every third Year, or shift Possessors every second or third Year. Such Lands, having little Labour, Manure, or Cultivation bestowed on them, bring little Produce, are thinly peopled, and bring the Proprietors and Possessors small Gain: Hence their Poor are double and triple to what they might be, the Increase of People is small. There is scarce any Ground but what might, with Judgment and Culture, be turned to good Account. But special Care and Provision should be made by Law, that, after Town-Fields are divided, they should not be ingrossed into one or few Hands; nor large Farms or Grounds to be lett to one or a few Men, to lett out to Under-Tenants at such Rents as they cannot possibly pay and keep their Families, far less make Provision for their Children to marry.—It is a manifest Truth, till of late Years, small Farmers were the first and sure Support of the labouring Part of the Nation; for their narrower Circumstances obliged them to thresh out their Grain yearly, and bring to Market what they could sell at moderate Prices, whilst

whilst Millers, Badgers, Swailers, and Corn-Hoarders bargain for much of the rich Farmers' Grain at a higher Price, and keep it by them till they can raise the Market: They have probably had Associations amongst themselves, as meer Homicides, to monopolize and get into their Hands all the Corn, both that growing and the old Stock in Hand, and so make an artificial Dearth at Pleasure, as might be the Case in 1758 and 62, both as plentiful Crops of Wheat as had been for many Years, tho' they were drougthy Summers. Perhaps it was proposed by them to buy in the Wheat at 5 s. a Bushel, and sell it out at 8 s. which must have starved half the Poor of the Nation, and so put a Stop to both Trade and Husbandry for Want of Hands. But the Legislature may soon put a Stop to their base Designs, by preventing Millers becoming Badgers, whereby they may buy up the damaged Wheat at small Prices, and, in Time of Dearth, sell it out at extravagant Rates; or mix good and damaged Wheat together, and sell out the Flour for good; or, when People send good Wheat to the Mill, they exchange it for their damaged Corn; and do, by their late *French* Mills, grind down the meer dry Husks or Bran of the Wheat into an useless Meal, void of Nourishment, besides perhaps mixing it with other Ingredients (which may be hurtful) to increase the Weight, and sell it to the Poor at an extravagant Price. The Law can also hinder Badgers buying Corn any where but in open Market, and oblige Farmers to bring out their Corn to open Market, and not set it up in their Corn-Chambers before the Market is over; or, when Wheat rises above 4 s. or 4 s. 6 d. a Bushel, to stop the Bounty on Exportation, and give it to the Corn Importers; and prohibit the Distillation of Wheat or other Grain.

Luxury is not only a Vice, but another great Impediment to Marriage: Hence the Expence is too large to maintain a Family with any State or Figure, in Cities or great Towns, where there only is a small or moderate Fortune; for if they must retire from High Life, Gaiety, and Pleasure, they must live in the Country, and be Œconomists.—Some, viewing City Expences in a married Life, look on entering into that State as chaining themselves down to perpetual Slavery, Poverty, and Distress, and therefore avoid it. Others shun Marriage, that they may give themselves up to a fuller Loose in the Pursuit of all their illicit Pleasures and vicious Inclinations. But good Sumptuary Laws enacted, and strictly executed on Offenders, would soon bring most to relish and prefer Marriage, and prevent many leaving their Estates to younger Brothers' Children, while they have Children enough of their own by Whores and kept Misses, when the poor Babes are unfortunate but innocent.

We saw before the mischievous Effects of Spirituous Liquors, and how greatly they promoted both Barrenness and Mortality, and especially those of the latter above 10 Years old, in *London* only; from which we may judge of their dire Effects not only in Towns and Cities, but too often in the Country itself, throughout the Kingdom; which deleterious Practice of spreading Poison and Death may soon be restrained, by laying additional Duties on them from Time to Time, which we see will visibly prolong the Life, promote the Health, Usefulness, Fruitfulness, moral Deportment, and Obedience to the Laws in the Subjects; greater Plenty of Grain for Bread and Drink to the Laborious and Poor; and export to our Neighbours at moderate Prices: For it is demonstrable, that the greater Restraint is laid upon Spirits, the greater will be the Consumption of Malt Liquors, and the more Revenue will it bring in to the Crown, as the moderate Use of the latter is the Cordial and Support of the toiling and laborious Part of the Nation.

It is observed that fewer die now under 10 Years old, than formerly. One Reason for which is, that fewer Abortives and Still-born are now registered either in Town or Country; and in many Places none of them are registered; nor indeed does it answer any End, except it be to shew that some few Couples, thought barren, were not so. — Upon examining the *London* Registers the Case stands thus: From 1629 to 36 were buried, in all, 90,915; whereof 3798 were Abortives and Still-born, which is one of 23. From 1647 to 55, were buried 89,658. Abortives, &c. were 2929, or only one of 32. From 1751 to 59, were buried 164,165; Abortives, &c. 4568, one of 36; not that Abortions and Miscarriages are rarer, but seldom or ever registered.

A Law for building and endowing Foundling Hospitals would not only be a Hindrance to Marriage, and an Encouragement to Whoredom, but enervate and weaken the Vigour and Strength of Youth, abate it's Inclination to Marriage, give a Kind of Toleration to Prostitution, encourage Libertinism, cast a Slur on Wedlock and married Women, cause a Neglect of Family Economy, occasion Jealousy and Suspicion between Husbands and Wives, cool their necessary Affections one for another, occasion a Neglect for providing for their Children, &c. But allowing such Hospitals might prevent the Murder of only a few Bastards! yet what poor Recompence to the State, to have the Chance of saving one languishing Life, by preventing the lawful Procreation of 20 or 30, and increasing the Loss, by Want of Food and Care, of 5 or 6 lawfully begotten; and also

also the preventing of Conception, and Destruction by Whoredom. Or else some Libertines keep their Padlock-Misses, to prevent the Admission of any but themselves; for many that will admit one, will not deny another if he pays better and pleases more. Why, for these Reasons, must lawful Marriages be discouraged? Why Laws against clandestine Marriages, and Laws to encourage Whoredom? Are there not, upon the whole, more Males born into the World than Females? What Rake or Libertine will not rather chuse to be excused from Marriage and Family Cares, that he may glut himself with Pleasure and Whoredom, and, if he happens to get a few puny, miserable Children, can get rid of them by thrusting them into a Foundling Hospital; for maintaining of which a new Tax must be laid on the Nation, as tho' it had not enough already, or had no Debt to pay off, that it might have fresh Credit when wanted? Is not this Encouragement of Whoredom cutting the Sinews of Industry, which is chiefly supported by the Married? But appeal we to Fact; have these Cities, which have such Hospitals, flourished more since they begun, or have not their Births dwindled in Proportion to their Burials since they had these Receptacles? Did not the Parish Births far exceed the Buryings before they had that Hospital, and do not now the Burials as far exceed the Births? And, as Foundlings increase, do not Weddings decrease? Can any honest, virtuous Members in the House vote for a National Tax for this Hospital, Part whereof must be raised from many poor, honest, distressed Families, Widows, and Orphans, ready to starve at home; and will not rather vote for prophane, odious, common, licensed Stews, which will do far less Harm, and bring in (not expend) Money to the Government?

The last Thing proposed was, that Cities and great Towns should (if possible) be provided with good Air, Water, wholesome Habitations, clean, open, wide, and well-ventilated Streets, where such Things can be had. Greater Sicknefs and Mortality are often charged, more than is just, on Air and Water; and on Smoke, Dirt, Closeness of the Place, bad Effluvia, and Excrements of Multitudes and Variety of Animals, &c. Tho' these Things want not their bad Effects, yet the Vices and Licentiousness of the Inhabitants are often more to be blamed. The Air and Water of some Places are not to be mended, as in low, wet, marshy Grounds, having foetid, stagnant Waters, and a corrupted Atmosphere, loaded with constant Moisture and putrid Effluvia; which Places, having no Descent to carry off these, cannot be made healthy Habitations. But some Places have been very industrious and successful in this Part of the Policy, they have

opened and cleaned their Ditches and Sewers, let off their Sludge and nasty standing Water, so that all Filthiness is more easily and better carried off, their Streets widened, and made straight, their Houses, Rooms, and Windows built loftier, &c. But, for all these great Improvements, Death sometimes rides triumphant, therefore the Cause must lie deeper in the Prevalence of Vice and Immorality, which can only be pruned off by a vigilant, indefatigable, virtuous Magistracy, having, and impartially executing good Laws on all Sorts of Offenders.

Having pointed out some Causes of the greater Mortality of Cities and great Towns, and how that may be remedied, in Part, the Nation made stronger and more populous, Trade and Husbandry better supplied with sufficient Hands, and Hire and Provisions cheaper, only by keeping up a stricter and more exact Policy to suppress Vice and Immorality, and promote Virtue and Industry. Thus far we have seen the great Waste of Mankind in all our three Metropolises, and the Means to moderate or lessen it. It may now be proper to give a few Specimens of the State of Health in some of our larger Market-Towns; but, for the lesser and Country Places, must refer the Readers to the general Table at the End of this Work.

After the Ages and Diseases of the Dead, it would next occur to inquire into their late State and Condition; but, having no home Registers to assist us, we must borrow the Help of some Foreigners herein. *Leipsic*, from 1720 to 36, had 5237 Births, 785 Marriages, and 6107 Burials. *Loubau* and *Annaberg*, in two Years, had 413 Births, 100 Weddings, and 962 Burials. *Breslaw*, in eight Years, had 10,018 Births, 2555 Marriages, and 12,109 Burials. *Dresden*, in five Years, had 8958 Births, 2554 Weddings, and 9837 Burials. In nine other Towns 3570 were born; married in seven of them, 251; buried, 3670. The last gives the Totals of all under 10 Years old, except the middlemost of the four, which gives the Still-born. *Leipsic*, *Loubau*, and the seven last Towns, give the Child-bed separate. The first and fourth confound Widowers and Widows. In all those Towns were buried 15,223 above 10 Years old, and 17,412 under it; but all the Places were not equally fatal to the same Ages, for in *Leipsic* 285 more died under 10 than above it. *Loubau* buried above double the Number above 10 than under it; *John-George* and *Annaberg* did the same. *Breslaw* buried 1400 more Children than Adults. *Dresden* buried above 1000 more. The last buried a Third more Children than Adults. *Leipsic*, *Breslaw*, and *Dresden* were more unfavourable to

to married Men, of whom died 5126; Women, 3581; Widowers, 467; Widows, 991; Batchelors, 1788; Maids, 1938. Here were married 6187 Couples, or 12,374 Persons, who produced 28,036, above $4\frac{1}{2}$ Children to each Wedding. Of the above 28,036 born, 12,374 were married; to which add 4725, who died in Celibacy, both make 17,039. Subtract this from 32,635 buried, remain 15,536 for the Total of all that died under 10 Years old; but the real Total of them is 16,922. Thus we find the Number of Incomers, and Strangers that died in the Time, near 16,000. Here were 5126 married Men buried, and only 3581 married Women; 1545 Odds; 356 Widowers; 991 Widows, where they are separated; so that, of each married Couple, it is near 3 to 1 the Woman is left a Widow, and of each married Man it is 1 to 3 he is left a Widower. The Proportion of married Men to Widowers is 5 to $3\frac{1}{2}$, and of married Women to Widows, 35 to 9, or near 4 to 1. Thus we see the Chances of second or third Matches. See the Table below.

Married Men	975	95	70	2091	1224	670
Women	677	48	36	1196	904	684
Child-bed Women	97	4	1	—	—	10
Widowers }	—	20	16	—	—	20
Widows }	437	35	65	1384	300	111
Batchelors	403	26	80	551	780	220
Maidens	322	22	97	534	508	270
Boys under 10 Years old	1238	36	102	3090	623	939
Girls	1019	42	80	2662	2689	746
Chryfoms, Boys	332	13	—	—	2427	—
Girls	230	12	—	—	—	—
Still-born, Boys	216	4	—	601	276	—
Girls	161	7	—	—	—	—

But to go on with some few large Towns. *Norwich* has formerly been a very populous, flourishing City, since in 1348 died in it, of the Plague, 57,374: Now, allowing this to be (what is not true) the greatest Plague that ever was in *Britain*, and that one Third of all the Inhabitants died of it, then there must have been in it 172,122 People. In 1549 was *Kitt's* Rebellion, since which the City has enjoyed profound Peace; only in 1705 happened a great Fire in it. *Maitland* says, from 1728 to 35, were buried 7073, whose yearly Medium was 1010, and the City contained 33,300 Souls: But, from better Accounts in the *Gentleman's Magazine*, we are told that in the above Septennary were buried 8234; Medium,

1176; in all, 166 more buried yearly than by *Maitland's* Account. Again, we have in the same Magazine the Births and Burials for that City from 1719 to 43, viz. Births, 21,561; Burials, 27,145 (in this latter Dissenters are included, but not in the former); Medium of Births, 898; of Burials, 1131; 233 yearly Difference. In 1693 an Account was taken of all the Souls in the City and Suburbs, and there were 28,851; but in 1752 the Magistrates caused a most exact Number to be taken both of Families and Souls in the City and Suburbs, viz. Families, 7139; Souls, 36,169; little more than five Souls to a Family, tho' it is a populous, flourishing City and Manufactory, and has many good Families. In 1752, 53, and 54, were baptized 3440; buried 3498; only 58 Difference. Here we have both the Dissenters' Births and Burials. In 1739, 40, 41, 42 (in 42 a fatal Small-Pox raged in the City) were baptized 3541; Medium, 885; buried, 5556; Medium almost 1400; 2000 more buried than born; the fatal Effects of a Dearth, Small-Pox, and a three Years spotted malignant Fever. A Number equal to the present Inhabitants is born in about 31 Years, and buried in 30½ of Peace and Plenty. It seems from the Number of Families in 1752, and yearly Births compared, that there are yearly 140 unregistered Christenings; if so, a Number equal to the present Inhabitants is born in 29 Years at most.

York, the second City of this Kingdom, Mr. *Drake* says, in seven Years had 2785 Baptisms; but there must have been more, or the City would only have 2786 Families, and not above 13,965 Souls. Such Accounts should either be strictly inquired into, and given fully, or not at all; for, if given too large, they appear incredible; if too small, contemptible.—*Maitland* says that *Breslaw*, from 1728 to 35, (seven Years) buried 9340; Medium, 1405; then the Souls are about 42,150: But this is nothing to the State of Health we inquire after.

Manchester is a Town of great Antiquity, Note, and Eminence; not only since the Conquest, but before, during, and since the *Romans*, as appears from the great Ruins in an adjoining Field, and many Inscriptions found near it; and from Dr. *Hollinsworth's* Manuscript, still preserved in their Library, Dr. *Leigh's Natural History*, *Leland's Itinerary*, and the *Magna Britannia*, which say that this exceeded all the Towns in the Northern Parts, in Buildings, Populousness, and Trade; that, in about 1630 or 40, it was computed to contain above 20,000 Communicants, or Persons above 16 Years of Age. See what Regard we should pay to some Historians; for if there were so many Communicants, there must at least have

have been 45,000 People; but in 1740 both *Manchester* and *Salford* contained not above 22,000 Souls; whereof supposing 11,000 were Males, and each 100 of all Ranks send out 34, between 15 and 56 Years old, fit to bear Arms, then this Place could not send out above 4740 such defensible Men. But to leave out Romances, and come to Certainties; from 1573 to 1603, were born 5737; Medium, 191; married, 1249; Medium, 42; buried, 6749; Medium, 225; Decrease, 34 yearly. The whole Families then must be about 1337; Souls, at most, 6685, according to their own Registers. From 1603 to 1626, were baptized 5891; Medium, 256; married, 1900; Medium, $82\frac{1}{2}$; buried, 5443; Medium, $236\frac{1}{2}$; Increase, $20\frac{1}{2}$ yearly. Families now were 1792, and Souls 8960. From 1731 to 52, baptized, 12,564; Medium, 625; married, 2871; Medium, $143\frac{1}{2}$; buried, 10,204; Medium, $510\frac{1}{2}$: Or, if we reckon from 1760 to 63, born yearly at a Medium, (including Dissenters) 781; buried, 636; thus the Number of Families in 1762 would be 5467; Souls, 27,335.—Hence we see, 1st, The great Increase of this Town's Inhabitants in 190 Years, from 6685 to 27,335; and of Families, from 1337 to 5467.—2d, From this and several others, as *Birmingham*, *Leeds*, *Sheffield*, *Halifax*, *Plymouth*, *Stockedamerel*, *Liverpool*, &c. we see the great Importance of Trade, and the Value we should set upon it, and the Government that protects and extends it, to the enriching the Nation, raising the Value of Lands, encouraging Marriage, exciting the Ingenuity and Industry of Farmers to make the Earth fruitful, and the Product bring in a due Price, the Poor have good Employment and Plenty of Bread, and the Government enabled, with good OEconomy, to raise a Revenue to maintain and protect the Nation.—3d, In the first Period each Marriage produced above $4\frac{1}{2}$ Children, or 9 to 2; in the second Period, little above 3; in the third, $4\frac{1}{2}$ again.—4th, In the first Period they buried yearly a seventh Part more than were born.—5th, The Baptisms were to the Marriages above 57 to 25; or 32 of 57 died unmarried.—6th, There cannot be allowed above 26 Years to bury a Number equal to the present Inhabitants; but from 1732 to 57 it might produce a Number equal to the present Inhabitants in 28 Years, and bury the like Number in 34, viz. 17,500: A great Change for the better.—7th, The Number of Exports, or Outgoers, makes an Increase necessary; but, in the second Period, only one more christened than buried.

Halifax, formerly called *Horton*, is a most extensive Parish, and has many Chapels under the Mother Church. It is very healthy, and conveniently situated for several Sorts of the Cloathing Trade, in which Branch they excell.

cell. Its Increase and Populousness is surprizing; for in a short Time the Town, from 13 Families only, rose to 1400; and to this Town and Mother Church belong nine large Villages, containing above 4000 Families, besides two other Registers kept in the Parish, which were never entered at the Mother Church, but sent yearly to the Register-Office in *York*. To them belong 16 other Villages, containing 2597 more Families, besides many Hamlets: So the whole Parish consists of near 7000 Families, which in 1745 were only 6425.—In about 1450 the whole Town consisted only of 13 Families; in 1566 it had 500; and now, in 1763, near 1500. At the Mother Church only, from 1539 to 53, were baptized 3278; yearly Medium, 234; married, 885; Medium, 63; buried, 2248; Medium, $160\frac{1}{2}$; surprizingly healthy. From 1732 to 46, other 14 Years, baptized, 4770; Medium, 341; married, 2100; Medium, 150; buried, 3983; Medium, $284\frac{1}{2}$; Increase, 784.—Here is a great Chasm both in Christenings and Burials; for in the first Period were near 4 Children to each Wedding; in this, little above 2; for if we allow only $3\frac{1}{2}$ Children to each Marriage, and that the Women are one eighth Part more barren now than formerly; then the Baptisms should have been 7350, instead of 4770. And had the Country been more unhealthy now than formerly, so that instead of a Third Increase, as before, we had only had a Seventh more Burials, then had they at least been 6383, not 3983.—But to clear this Point; from 1756 to 62, (six Years) were baptized 6878; married, 1948; buried, 5511. In 1746, in only five of the nine Villages, were 1827 Families; but in 1758 there were 2036; in 12 Years increased 209 Families. Here is also an Increase, in six Years, of 1367 Souls in this Part of the Parish; the late yearly Births being 1147; the Families, 8049; the Souls, near 40,000; then it buries a Number equal to it's present Inhabitants in about 41 Years. The other two Parts of the Parish, whose Registers we have not, consisting of 2597 Families, and 5 Souls to each, the Number of Souls is about 12,985; which added to the above 40,000, the whole Parish contains 52,985; whereof 26,000, at least, being Males, and of each 100 34 defensible Men of Age fit to bear Arms, then this Parish only can raise 9000 such Men of all Ranks. Upon Trial, these Computations are nearest Truth; for allowing a Woman of every seventh Family to bear a Child yearly, then the yearly Births, multiplied by 7, give the Number of Families; and these, in Country Places, multiplied by $4\frac{1}{4}$, or $4\frac{1}{2}$, give the Number of Souls; but great manufacturing or trading Towns allow $4\frac{1}{2}$, or 5 at most. Generally the Births, in one Place with another, (where there are no Dissenters) are $3\frac{1}{2}$ to $4\frac{1}{2}$ for a Series of Years, so may be safely taken, at a Medium, at 4.

Before

Before 633 *Leeds* was only a Country Village; then it rose out of the Ruins of *Almondbury*, which then being wholly destroyed between the *Britons* and *Mercians*, *Leeds* was made a Royal Village instead of the other, and so continued till the 13th Century; but in 1400 it was joined to the Crown again. In 1626 it was made a Corporation Town; King *Charles II.* ordered it to be governed by a Mayor, 12 Aldermen, and 24 Assistants: It sends no Members to Parliament, and is supported by the Cloathing Manufactory. In the whole Parish belonging to *Leeds*, from 1572 to 83, were baptized 1693; Medium, $163\frac{1}{2}$; married, 493; Medium, 41; buried, 1595; Medium, 133: Equally fruitful with *Halifax*, but not equally healthy, having a Fifth Increase. From 1600 to 1612, the whole Parish Births were 3393; Medium, 282; Weddings, 921; Medium, 77; buried, 2823; Medium, 235. As the Town and Trade flourished, many new Incomers, not Natives, came in, settled, married, and died; hence less Proportion between Christenings and Marriages. From 1660 to 72, in the Town only, were born 3923; Medium, 327; married, 1008; Medium, 84; buried, 4669; Medium, 389: Births to Burials, as 16 to 19; Marriages to Births, near 1 to 4. From 1734 to 46, Baptisms in the whole Parish, (Papists and Quakers excepted) 8379; Medium, 697; married, 2292; Medium, 190; buried, 6925; Medium, 577. The yearly Births being 697, Families then were 4879, and the Souls were 24,395 at most: Or, if we reckon the other Way, the Births would be 760; 63 Odds; which may well be allowed for Births not registered, as excepted above; the Families would be 5320; Souls, 26,600; but this Method is not so exact as the other. We see both *Leeds* and *Manchester* are now more healthy than formerly.

Tho' *Birmingham* is now a populous, flourishing Place of Trade, it has not been long so. From 1610 to 12, were born 789; Medium, 99; married, 139, 14 yearly; buried, 568; Medium, 57. Here are above $6\frac{1}{2}$ Children to each Marriage; born, near 100 to 57 buried; surprizing Fruitfulness and Healthiness. But from 1736 to 46, in a Part of the Town, (exclusive of *Aston*, that joins to it) born, 5185; Medium, 520; married, 1394; Medium, near 140; buried, 5508; Medium, 551. The Births are far short of the former; for allowing 4 Children to each Wedding, instead of $6\frac{1}{2}$, here are 407 Baptisms wanting: This brings Births and Buryings to a Par. From 1754 to 61, born, at a Medium, 747; buried, 785. At the Restoration it had only three Streets. In 1700 it had 30 Streets, 100 Courts and Alleys, one Church, one Chapel, two Dissenting Meetings, 2504 Houses, and 15,032 Inhabitants. But to these were
F added,

added, before 1731, 25 more Streets, 50 more Courts and Alleys, 1215 Houses, 8254 Souls, and a new Church. In 1701 were 14,000 People in it. Here is a wonderful Increase, not all of it's own Product, but chiefly by Incomers; but by allowing yearly 50 unregistered Baptisms to compleat 797 annual Births, the Number of Families will be about 5579; Souls, near 27,895.

Another surprizing Instance of the Rise and Growth of a Place by Trade, is *Liverpool*; for so late as from 1663 to 73, were only born 563; Medium, 56; married, 70; Medium, 7; buried, 411; Medium, 41: Births to Deaths, as 11 to 8; Families, 392; Souls, 1960. In 1757, 58, and 59, it's yearly Births, at a Medium, were 724; Marriages, 322; Burials, 847. The great Body of Dissenters here prevents reckoning by the Births; but by the Marriages, tho' not so exact a Way as the other. In the first were 8 Children to each Wedding; let us now take only 4, so the yearly Births would be 1288, and the Burials between 8 and 900; hence, without Dissenters' Baptisms, arises an Uncertainty of the Number of Families and Souls.

Sheffield was made a Market-Town in 1296, and for 350 Years has been a noted Place for Cuttlery Ware; which seems to have had very ordinary Sorts then, seeing all good Knives and Knife-Cases were imported before 1563, that *Richard Matthew* first made both in *England*, and got an Act of Parliament against importing them; so that this Act is almost coeval with the first making of Worsted Stockings in *England*, in 1564, by *William Kidder*; and the first Invention of making of Silk Stockings in *England*, in 1560, before which all Ranks wore Flannel Hose. Here we shall quickly find the great Increase and Improvements of this Town and Manufacture in 200 Years, wherein the yearly Births are risen from $109\frac{1}{2}$ to 765, above sixfold; it's Marriages, from $29\frac{1}{4}$ to 184; the Burials, from $66\frac{1}{2}$ to 562. When it's Families are 5334, it's Souls are 22,667; and a Number equal to it's present Inhabitants are born in $29\frac{3}{4}$ Years, and buried in $37\frac{1}{4}$. Increase in Period the first, near 16 to $9\frac{1}{2}$; in the last Period, near $10\frac{2}{3}$ to $8\frac{3}{5}$. Here is a great Decrease of Health, tho' we have both Dissenters' Christenings and Burials. Born, from 1561 to 91, 3285; Medium, $109\frac{1}{2}$; married, 877; Medium, 30; buried, 1992; Medium, $66\frac{1}{2}$: Births to Burials, almost 33 to $20\frac{1}{2}$; Increase, 1293; married, almost 171 to 33; wonderful healthy. From 1591 to 1621, born, 4578; married, 1345; buried, 3731. From 1621 to 41, born, 4014; married, 1345; buried, 3800: Here the former great Disproportion between Baptisms and Buryings

ings lessen apace, from greater Intemperance and Incomings of Strangers. After this, Buryings far exceeded the Christenings. From 1641 to 61, born, 3294; married, 885; buried, 4164. From 1661 to 81, born, 4322; married, 1222; buried, 4643. From 1681 to 1701, born, 4952; married, 1106; buried, 5478. From 1701 to 41, born, 11,118; married, 4540; buried, 9931. Here only the two first Ternaries are to be regarded, not the next three. From 1741 to 51, born, 5815; married, 1584; buried, 5235. From 1748 to 62, born, 10,666; married, 2637, above 4 Children for each Wedding; and buried, 8349: Increase, 2317. In the last seven Years not a Half of the Baptisms were married, 5392 died in Celibacy, and 5274 were married. Here we see the Rise, Growth, and Decrease of the Dissenting Interest; for in the last 14 Years we have the Total of all Protestant Christenings and Burials, and also the great Increase of Inhabitants.

Hull, a populous, flourishing, trading Town, from 1731 to 33, all the Baptisms in it were 6116; married, 1831; buried, 4646. Here are scarce $3\frac{1}{2}$ Children to each Wedding; Increase, 1460; yet only 2456 were unmarried.

In the City of *Ely* are no Dissenters; in it, from 1654 to 68, were baptized 2059; married, 549; buried, 2205: A Decrease of one 23d Part. From 1718 to 53, baptized, 1721; married, 537; buried, 2056. In the first 14 Years, Births are to Marriages as $3\frac{3}{4}$ to 1; in the second, $3\frac{1}{2}$ to 1; the latter was also the more mortal. Both shew it to be an unhealthy Place, on the Decay then, and not very fruitful. It's yearly Births, in the first 14 Years, were $146\frac{2}{3}$; the Marriages, $38\frac{2}{3}$. In the latter Period, yearly Births were $113\frac{1}{2}$; Marriages, 36; Burials, 137; which equals the Number of Inhabitants in 26 Years, and it's Births in $31\frac{1}{2}$.

Nottingham. The upper Part of the Town lies very dry, healthy, and pleasant; the lower Part, very low, wet, and unhealthy. It consists of three Parishes, viz. St. Mary's, (the largest by far) St. Peter's, and St. Nicholas's. The first and last, from 1565 to 86, baptized 1231, married 338, buried 971; near 4 Children to each Wedding, and near a Fourth Increase: Medium of yearly Births, near 56. From 1742 to 62, baptized in all the Parishes, Dissenters included, 9009; married, 2180; buried, 7290; Families, 3185; Souls, 14,332. The like Number born in $31\frac{1}{4}$ Years, buried in $39\frac{1}{2}$. Births to Marriages, as $4\frac{1}{2}$ to 1.

Coventry has only two Churches with Burying Places, *viz.* *St. Michael's* (whose old Register was burnt some Years ago) and *Trinity Church*. In the latter's former Register, from 1614 to 34, were baptized 1206; married, 229; buried, 1155: Only a 25th Part Increase, tho' then there were $5\frac{1}{4}$ Children to each Marriage. Of the 1206 baptized, only 458 were married, and 750 died in Celibacy; tho' then seemingly fruitful, yet apparently an unhealthy Place.—In this same Parish, from 1711 to 31, born, 1767; married, 1095; buried, 2113; about 450 unregistered Baptisms; yet, of the registered, 11 out of $17\frac{1}{2}$ were married, which is not true, if we look before; besides, each married Couple had scarce 2 Children. Strange Sterility! after an extraordinary Fertility; not near half the Buried died unmarried.—In this Century *St. Michael's* seems much the larger Parish; wherein, from 1711 to 31, were born 3557; married, 1231; buried, 4540: Near 1000 more Burials than Births; near two Thirds of the Baptisms were married, 2000 died in Celibacy, and each Marriage had near 3 Children.—In the last Vicennary, from 1742 to 62, were baptized in the whole City (Quakers and Catholics excepted) 8329; married, 3427; buried, 7600: Increase, 729; scarce 3 Children to each Marriage: Yearly Births, $416\frac{1}{2}$; Families, 2912; Souls, 13,104, exclusive of Papists and Quakers.

According to the Bills received from *Leceister*, for two Periods at 120 Years Distance, *viz.* from 1620 to 41, and from 1741 to 62, (but both without Weddings) and these very lame. Tho' the Town has six Parishes, yet I had only five sent me for each Period, which Chasm I have here supplied. In Period first, baptized, 3723; buried, 3615: Then the Medium of yearly Births was 185; Families, 1295; Souls, 5867. In the last Period were born, 5846; Medium, 279, including all Protestants' Births; Burials, 6129; Families, 1953; Souls, 8789. This is the best Estimate that can be made without the Marriages, the Want of which in published Registers spoils them; nor could I ever get or have a good Reason for omitting them.

Stamford has six Parish Churches; but *St. John's* has lost it's old Register, so the first Decade has only five; in which, from 1630 to 40, were baptized, 834; Medium, $83\frac{1}{2}$; married, 195; Medium, $19\frac{1}{4}$; buried, 784; Medium, 75; above $4\frac{1}{2}$ to each Wedding. The Families then, in these five Parishes, were 581; Souls, 2324. They produced an equal Number in 28 Years, and buried the like in 31. In the latter Decade, (from 1752 to 62) the same five Parishes had Baptisms, 884; Weddings,

311; Burials, 941. The whole six Parishes, in this Decade, had Births yearly, $103\frac{1}{2}$; Weddings, $46\frac{1}{2}$; Burials, $109\frac{1}{2}$. In the first Decade was an Increase of a 16th Part; here is a Decrease of a 17th Part: Before, each Wedding had $4\frac{1}{2}$ Children; now, not above $2\frac{1}{2}$. Here are either many unregistered Baptisms, or a great Sterility in the Fair Sex, or both. This Sterility must arise from some Errors in the Women, for Air, Situation, Food, Seasons, &c. are the same as before. The present Families are 1621; Souls, 4640.

Maitland says (but gives no Vouchers, nor Births or Weddings) that *Bristol*, from 1728 to 35, buried 9840; Medium, 1405; Souls, 42,150.—*Canterbury*, in these Years, buried 2170; Medium, 310; Souls, 9300.—*Salisbury* buried 2012; Medium, 287; Souls, 8610.—*Wolverhampton*, 1793; Medium, 256; Souls, 7860.—*Nottingham*, 2434; Medium, 347; Souls, 10,410.—*Leicester*, 1861; Medium, 265; Souls, 7950.—*Exeter*, from 1729 to 35, buried, 3227; Medium, 537; Souls, 16,110. He reckons always 30 Years Burials equal to the Number of Inhabitants: A deceitful Gauge.—*Glasgow*, in three Years, buried 2935; Medium, 980; Souls, 30,349, allowing 31 Years to bury it's present Number of Inhabitants.—Buried yearly in *Yarmouth*, at a Medium, from 1716 to 28, 370.

A large Volume might be collected from Histories of particular Plagues or Calamities in several Countries and Cities, in later Centuries; but they would come far short, both in Extent and Severity, to many antient Plagues; particularly the three general Plagues next after the Incarnation; the first in 167, which raged 10 Years; the second in 253 or 56, which continued 15 Years; and the third in 1345, which lasted till 1363. These travelled over, and almost depopulated, the whole Globe; but especially the two former ones, during the ten *Roman* Persecutions of the Christians. No general Judgment from *Noah's* Flood had equalled these. Or look we into late particular Plagues, how heavy soever, yet they are no Parallel to antient ones, as that of *Africa*, *Ann. Mund.* 3881, from Locusts; when, in *Numidia* only, died 800,000; on the Sea-Coasts of *Carthage*, 200,000; in the small City of *Utica*, 30,000 Soldiers. Then antient Calamities of civil Kinds, as Earthquakes, Famines, Plagues, &c. were more cruel and fatal than of late, whereof take a few Instances.

All Nations, Kingdoms, and People, who know Letters, keep Records of both, or more general or local Judgments of one Kind or another; many of which are now lost, tho' Abundance remain, which shew that the

the late Calamities have been both milder and gentler than the former. Earthquakes, for Instance, have in many Places made sudden and great Waste and Destruction, as that when *Antioch*, and a great Part of *Asia* bordering on it, was swallowed up in *Trajan's* Time: And in *Tiberius's* Time twelve Cities in *Asia* were overturned at once; and, in *Constantine's* Time, as many in *Campania*. In *Apulia* a terrible one. *Augustine* tells of one that overthrew one hundred Cities in *Libia*, &c. at once. Of late we have heard of none like these; only in our Time a very smart one in *Jamaica*, another at *Lima*, and one at *Lisbon*, when several Places of the Globe had slight Shocks, but not comparable to the former.

Tho' we have here given an Account of many Plagues, which have made great Slaughter of Mankind, and, from Time to Time, have roamed about from Place to Place; nor have *Britain* and *Ireland* escaped their Fury, as appears chiefly from our early Ecclesiastic Writers; for, in the Year of our Lord 43, the Plague made such Havock here, that the Living were scarce able to bury the Dead. In 46 it made shocking Destruction of all Ranks, Ages, and Sexes. In 92 died of it, in *Scotland*, 150,000; and in 222 it killed 10,000 there. In 226 it made another desolating Visit; and the like again in 333. In 375 it slew 48,000 in *Wales*. In 753 and 85 it made great Slaughter in *Scotland*; and the like in 440. In 409 *York* was almost laid Waste. In 771 it carried off great Numbers in and about *Chichester*. In 954 it swept off 4000 in *Scotland*; and made the like fatal Havock there in 1234: And, in 1315, the like Mortality in *England* from Famine. In 1348, the Plague in and about *Wallingford*. In 1407, after a corrupt, sultry Summer Air, the Plague broke out in several Places in *England*, and in *London* alone died 30,000. In 1427, after almost continual Rains from *Easter* to *Michaelmas*, came Dearth, Death, and Famine, and a hot, sultry Winter, followed by the Plague. These Plagues were very great; but have been much exceeded by antient Plagues, such as that in *Virgil's* 3d Georgic; or that in *Ovid's* 7th Book of *Metamorphoses*; or that of *Athens*, in *Thucydides*; or that in *Ægypt*, in *Exodus*; or that in *Senacherib's* Army; or those mentioned by *Pomponius Lætus*, *Zonorus Eusebius*, &c. in 250, which began in *Æthiopia*, raged the World over for 15 Years, and laid some whole Kingdoms Waste; or that under the Emperor *Justinian*, which, in and about *Constantinople*, daily cut off 5 or 10,000, says *Procopius*; or the Pestilence in *Africa*, which, in *Numidia* only, slew 800,000, says *Crossius*; or that in *Greece*, under *Michael Ducas*; or that in *Italy*, in 1359, in *Petrarch's* Time, when *Lypseus* tells us there were not 10 left of each 1000 in the whole Country. Antient Histories give Account of many more Plagues.

For Droughts, where shall we find any of late equal to that of *Cyprus*, which lasted 36 Years, till all Land-Animals were dead, or fled; or that in *Ægypt*, in *Joseph's* Time; or that in *Abab's* or *Jeremiah's* Time; or that of 1201, wherein the Heat and Drought were such, that the poor lean Harvest was ended and over on *June* 24; and in *July* and *August* so great was the Heat and Drought, that People roasted themselves in the Sands. On the contrary, we rarely hear of such severe Seasons as the Winter of 821, when all great Rivers, both in *France* and *Germany*, were so hard frozen 30 Days, that all heavy Carriages went over them like Bridges. In 1086, from *November* 11 to *April* 1, the *Rhine* was a Highway. *Hermannus Contreit* says, in 1063, in the Middle of *April*, for four Days such Winds and Snows as killed Cattle and Birds, and destroyed Vines and Trees. *Roberts de Monte* says, that in 1125 was so severe a Winter, that, from the long Continuance of the Ice, Multitudes of Eels came creeping out of the Ditches, hid themselves in Meadows, and were afterwards found dead of Cold, and rotten by the returning Heat. *Tacitus* mentions a great Frost that the *Roman Army* felt in *Armenia*, wherein many of the Centinels were frozen to Death; and a Soldier, carrying a Faggot, had his Hands so stiff frozen, that, sticking to his Load, they fell from him as if cut off from his Arms.

If we consult antient Histories, we shall find more and severer public Calamities then than in later Ages; as Plagues, Earthquakes, Droughts, Rains, Famines, Inundations, Frosts, frightful Meteors, &c. Hence it is not true that the older the World is, the worse it is, tho' perhaps it's People may be so.

Table I. Part I. Shews the greater Waste of Mankind in Cities and great Towns, be their Situation what it will; and that, without good Policy made and strictly executed, this Waste is still increasing both at home and abroad. Here we have a few Towns upon the Continent, most of them for a small Number of Years. In the first Period of Table I. we have in a few Towns the Loss or Decrease (*Amsterdam* and *Berlin* excepted) of 120,812; 798,262 having been born; and 919,074 buried. Of those, whose Marriages we have, each Couple had near four Children: And of 579,179 Births, 251,332 were married, and 327,847 died in Child-bed or Celibacy. Births to Burials, near 79 to 91; the Married to the Unmarried, as 25 to $32\frac{1}{4}$.

In the second Period, Births are to Burials near 284 to 342. Of the three Cities, whose Marriages we have, the Born were to the Married nearly

nearly as 53 to 30; yet scarce $3\frac{1}{2}$ Children to each married Couple: So great a Number of the Born being married portends an Increase, yet there is a Decrease of 57,784, or a fifth Part. Of the Cities mentioned, *Berlin*, besides the Advantages of Air and Situation, appears to be the healthiest, from a better established Policy well executed. *Paris* seems to put in for the next Claim to this Policy, tho' it has a most brilliant crouded Court, having not a ninth Part more buried than born, till we look into it's Foundling Hospital a little.

About the Middle of the last Century *France* swarmed with Beggars, whose Wants were greater than the Monasteries would or could supply; this put them on making their Way to the City in such Numbers, that they were computed to be 40,000 at least; many Ways were tried to be freed from this Evil, but all were ineffectual. In 1656 they published an Edict for fixing the Poor to settled Residences, finding Ways to employ them, and establishing a Fund for their Support. To execute this, the King gave many Houses and Scites in or near *Paris*, as the *Bicustre*, *Sal Petriere*, (the one for Men and Boys, the other for Women and Girls) and others depending on them, all to be called the General Hospital. Under this was the *Charitea* for poor Boys from five to ten Years old, and the *Hotel de Dieu*, which is a Part of the General Hospital, all had Funds settled for them; besides which the King supplies them with Houses and Fire, and remits all Taxes on their Wine, Salt, and all Sorts of Provisions. As soon as Preparations were made for their Reception, 35,000 of the Beggars disappeared, and only 5000 continued. Besides the Royal Funds and charitable Donations, such as were able were obliged to work at such Busineses as they were fit for, and assigned them; and thus to contribute to their own Maintenance. This seems to be the Beginning of Work-Houses; an useful, charitable, Christian Design, if rightly managed, and appears necessary to prevent and suppress strolling Beggars. The Foundling Hospital was designed and appointed for deserted Children, baptized and registered, whose Parents were poor, sick, disabled, or dead abroad, or in the Service; so not intended for the who-rish, adulterous, or incestuous Brood of the Rich and Great, to be brought up at the Expence of the Poor, being more properly designed for an Orphan Hospital; so the Foundation is not culpable, but laudable, as is still evident from a considerable Part of the Citizens of *Paris* sending their Children there as soon as they are born, where they are received, and sent into the Country to be nursed till they are five Years old; then brought back till they are twelve, when they are put out to Services or Busineses.

Busineſſes. Many of the few that ſurvive the Nurfing, are remanded back by their Parents. There are yearly received into this Hoſpital between 4 and 5000; from which ſubtracting the Number that die yearly, few ſurvive. A large Part of the *Parisians* die in theſe Hoſpitals. Since the City has ſo great an Intereſt in theſe Hoſpitals, it is ridiculous to ſeparate, in their Bills, the Dead here, from thoſe for the City. All the Cities and great Towns in *France* have ſuch Hoſpitals.

Table I. In the following Tables I ſhall begin with ſome foreign Cities and Towns, and ſee what is their Increate and Decrease. Their Births, in ſeveral Series of Years, were 798,262; Burials, 919,074: Decrease, 120,812. The Marriages we have, for a few of them, are 142,096, each of which produce near four Children. Of the Births died, unmarried, 327,847; the Number that married, were 251,332. Of the fix Cities, whereof we have a ſmall ſecond Period, in them were baptized 284,579; in three of them were married 15,487 Couples; buried, in the whole, 342,363. Each two married had ſeven Children. Compare with theſe ſome *English* Cities and Towns.

If we conſider our laſt 120 Years Loſſes, we ſhall find our Country far ſhort of being fully peopled, whilſt ſuch vaſt Drains are continued. *Britain* ever has been, and now is, far from having ſo many People in it as it's own Produce would maintain, was it well cultivated, which it is not; Part of the Blame whereof lies on Landlords, who over-rent their Lands, ſo as Tenants cannot have Money both to improve their Eſtates, and pay too high Rents. Some of them alſo deny Leaſes to honeſt, induſtrious, ingenious, and ſober Tenants, who are generally too wiſe to lay out their All in improving other Men's Grounds on a verbal Agreement, or three or ſeven Years Leaſes, or on his Honour, before there are Inſurance Offices for Lives. Land under-rented is a Loſs to the Public, by lying neglected; and over-renting is a Loſs both to Landlord and Tenant. The whole People in *Britain* and *Ireland* being computed at 8,000,000, whatever they exceed or come ſhort of producing yearly 1000 ſenſible Men for each Million, they increaſe or decreaſe ſo much. Wars, Commerce, Trade, and Emigrations here, and Wars, Trade, Emigrations, and Superſtition in *France*; theſe, with Pride and Idleneſs in *Spain*, all hinder the People's increaſing; to theſe add Want or Neglect of a good Policy in many Places; hence ſee the ſurprizing Increate there is in the *Prussian* Dominions beyond any other in *Europe*. It is plain that *England* is far from being fully peopled, 1. From great Commons, Town-Fields, and

Wastes lying so much neglected.—2. From their Exportation of a third Part of the Corn, even after much of their best Arable Land is turned to Pasture Ground; besides a prodigious Waste in Distillation, and other profuse, unnecessary Uses.

Having seen the Waste of People in our Metropolises and several large Towns, and by living in unhealthy Soils and Situations, Dealings in some Businesses, and Ways of Life, inconsistent with Health, long Life, and Fertility, the ingenious Dr. *Brakenridge*, on mature Deliberation, thinks that, after the Deduction of our Losses by Sea, Commerce, Wars, and Emigrations to our Colonies, it may be proved that *England* has little or no Increase at all, but a considerable Loss, especially of late, not only from the above Deductions, but from turning so much of our best Arable fruitful Grounds into Pasturing Lands; thereby depopulating great Numbers of Parishes and Villages, yea, several Corners of Counties; a general profuse Use of Spirituous Liquors, destructive to Men and Morals; the great Addition made by the late Peace (as we shall see after) to our Colonies and Plantations abroad, begun to be peopled by our Emigrants; the above Difficulties and Restraints laid on the Marriage Bed; the great Connivance at Whoredom, Adultery, kept Misses, Intemperance, Luxury, and raising Rents; and letting Lands out in too large Quantities to First-Farmers, to parcel out at extravagant Rents to Under-Tenants, whereby they are oppressed and beggared; so the Poor are left to the Mercy of Farmers to impose on. Thus, having got the Power of all Provisions into their Hands, they are so immoderately advanced, that the Poor cannot live; their Children are disposed of to Trades and Manufactories, which, being over-stocked, raise Mobs and Riots. Thus our greatest Increase must arise from *Scotland* (as was seen in the late War) and *Ireland*; but the Increase of the Natives of the latter go to *France*, *Spain*, and *Portugal*. Yet in the Midst of all our Losses, and our Want of Recruits, a late Act was not suffered to pass for naturalizing of foreign Protestants, whilst Popery increases apace at home.

In 1696 all the People in *Ireland* were computed to be 1,034,000; and in *Scotland*, 2,500,000; the yearly Increase in *England*, 18,000; in *Ireland* and *Scotland*, 15,000. Then if, with Dr. *Halley*, we allow one Fourth of this Increase to be sensible Men, it will only be 8250 yearly Increase. In the late 66 Years *Brakenridge* judiciously computes we have lost, by Land and Sea, 448,000 sensible Men by Wars and Trade. Add to those, Numbers secretly drained from *Ireland* into foreign Service, and

on Account of Religion, and the *Scots* that go into the *Dutch* Service, is rather more than 500 yearly. If to these we add such as have gone to our Colonies and Settlements in the *East* and *West-Indies*, and those lost by Spirituous Liquors, our Loss exceeds 8250 yearly; in all, 544,500 sensible Men. The last War, and Accession of large Countries since, have added greatly to our yearly Decrease; and before that, if we add 46 Years more, *viz.* from 1644 to 90, where was our Increase? Tho' we had little or no foreign Wars, our Commerce by Sea and Land has been greatly increased since; yet we decreased much by a Civil War and Massacre in *Ireland*, and the Murder, Imprisonment, Banishment, and Emigration of 20,000 of the strongest best Protestants, besides those whose Procreation was prevented by bloody Persecutions under two Tyrant Princes.

In 23 Market-Towns, during Part of two Periods, in the first Period were baptized 79,959; married, 20,057; buried, 65,514: Increase, 14,445, or about one fifth Part. Each Wedding produced four Births; Baptized to Buried, near 79 to 65; Baptized to Married, 79 to 40; Married to Buried, 40 to 65. In Period second, baptized, 135,306; married, 42,055; buried, 130,652: Increase, 4554. Here are at least 3500 unregistered Baptisms, which, added to the Births, would make 138,306, as in the first Period, and the Increase would be 7554. This appears from the Disproportion between Weddings and Births in the same Places in the same Periods, and from too small a Remainder left to die in Childhood and Celibacy, being 17,000 less than one Half. This being the Case, the true Increase must be as above.

Here follow 23 other Market-Towns, for two of which we have no first Period. Their Births, 77,630; Marriages, 20,117; Burials, 59,530: Here is an Increase of 18,100. Births to Burials, near 77 to 59; Married to Unmarried, as 77,630 to 40,234; near 38 die unmarried to 40 married; above $3\frac{3}{4}$ Children to each Wedding; Married to Buried, about 40 to $50\frac{1}{2}$. This gives the Number of Emigrants; for if continued, tho' unmarried, they would have been buried here.

In the second Period were baptized, 60,937; married, 16,223; buried, 50,582; $3\frac{3}{4}$ Births to each Couple; much above half the Born were married, and above 18,000 more buried than married. Most of the Increase must be Emigrants, as they were neither married nor buried here. We find few unregistered Baptisms in those Towns.

We have next 15 small Market-Towns of only the second Period ; they had 38,286 Births, 7889 Weddings, and 30,407 Burials ; the first to the last, as 38 to 30 ; the first to the second, as 38 to $15\frac{1}{2}$; the second to the third, near $15\frac{1}{2}$ to 30.

From 12 Market-Towns I procured a true Account of all Protestant Dissenting Baptisms and separate Buryings for near 20 Years backward, and added them to the Church Baptisms and Burials : The whole Baptisms were 77,391 ; Marriages, 19,670 ; each, one with another, had near four Children to each Couple ; the Increase about a ninth Part. But many of the Towns have no Dissenters, as *Ely, Sleaford, Bawtry, &c.* Yearly Buryings only answer no End ; with the Baptisms they answer some ; but most of all with the Marriages, and all for a Series of Years.

Having had a View of the several States and Degrees of Health in a few Cities, and many large and small Market-Towns in *England*, come we next to a considerable Number of those Country Parishes or Villages from which those great Supplies, or Recruits, must be drawn. These also I shall divide into Classes, according to their sundry Increases, till we come to a Decrease, as they differ in Soils, Situations, Ways or Businesses of Life : And many of them, in the first Period especially, are for a long Series of Years before any Distractions or Divisions happened, and Registers were better kept, and even in many Places where the Plague had been. It would answer little or no End to collect Extracts of Registers for a few Years, as 7, 10, or 13, since in the healthiest Places fatal Epidemics come but seldom, as once in 10, 15, or 20 Years, or seldomer, and make great Slaughter of perhaps more than in 10 or 12 other Years ; whereas, in Cities or great Towns, Death keeps a more regular Pace ; it is seldom that more die in one Month than in two or three others, and a few Weeks put an End to that Mortality, the Plague excepted. In some few Places, where but little Difference appears between the two Periods, both are thrown into one. Want of Marriages is an irreparable Defect in some ; but that Defect is, in some Degree, compensated, by using only such as have them with their Births and Burials.

In the first 44 Parishes, in Class the first, Period the first, were baptized 57,702 ; and in 43 of them married, 13,791 ; buried, 40,862 : Increase, near 57 to 40. The Born to the Buried, near 57 to 40 ; the Baptized to the married Persons, near $57\frac{7}{10}$ to $27\frac{1}{2}$, or 30,118 were unmarried. There are 2700 Births above four Children to each Marriage, including Bastards and Twins ; but taking in these, and second and third
fruitless

fruitless Adventures and dry Pairs, the Births by young breeding Pairs are often $4\frac{1}{2}$, or sometimes above 5 to each Couple. The Married are to the Buried as near $27\frac{1}{2}$ to 41; but allowing for second, third, and late Marriages, this makes the Mortality of Infants and Youth to be small, scarce 3 in 14; and as the Increase is near 17,000, the Emigrants are as many. Here we see the great Healthiness of the Country; some have a third Part Increase, others more.

In 25 other Country Parishes of this Class, and first Period, were baptized 26,437; married, 6319; buried, 20,409: Here the Born are to the Buried as 26 to 20; the Born to the Married, 26 to above 12; the Married to the Buried, about 26 to 20. Above four Children to each Wedding; about 6000 Increase; 500 short of a fourth Part. The other Part of this Period was above a fourth Part.

In 61 Parishes, in the second Period of this first Class, were baptized, 112,716; married, 23,487; buried, 87,367. The whole Births registered are to the whole Burials above 112 to 87: Increase, 25,349, or near two Nincths, passing near 1000 whose Marriages we have not; then the Births are to the Weddings above $4\frac{3}{4}$ to 1. Here we see that they are either more fruitful, or marry sooner in Life than formerly; that the Country is more fruitful than Cities and great Towns, and has fewer Dissenters, or Births are better registered. Above half the Buried were married. Add the Emigrants to the Married, there remain 40,393 to die in Infancy and Celibacy, or as 40 to 112. Here we see both the general Healthiness and Fruitfulness, as well as early Virility, of a fine clear Country Air; especially if we consider the Strength and Courage of an early Product. I say general, because in all Soils and Situations there are some Constitutions suited to bear them, tho' few in Number.

In Class third, Period first, are 11,109 Baptisms, 2835 Marriages, and 9596 Burials. The first to the third, near 111 to 96; somewhat above one Seventh Increase: The first to the second, somewhat above 4 to 1: About half the Baptized were married: The Married were to the Buried near 5 to 9; and the Married were to those that died in Celibacy, as 56 to 39. The Emigrants were to those that died and were buried there, near 15 to 96.—In this second Period the Baptized were 13,936; the Married, 3236; the Buried, 12,086; $6\frac{1}{4}$ to 12: So that of the 12,086 buried, 5614 died in Celibacy. These added to the Married, and subtracted from the Baptized, give the Number of Emigrants, or Increase,
viz.

viz. 1850.—Take we Period first of the four Parishes in the last Class, their Births were 4039; their Burials, 4470: A Decrease of above 400. In the second Period, Births, 4617; Marriages (adding 1122 Births in Period first) are 1656; Burials, 4773. Here is a Loss of 117; not $3\frac{1}{2}$ Children to each Wedding. The Births to the Marriages, as 57 to 33.

From Period first of Class first, see the great Fruitfulness of a virtuous State of Life in a healthy Country, where the Women (exclusive of dry Pairs and fruitless second and third late Adventures, chiefly for the Convenience and Comfort of Life) produce, one with another, five Children, or above; and also the virtuous State of Males, whose genital Liquor is neither too often nor unnecessarily drained off in Whoredom nor otherways, nor rendered useless to the Females by promiscuous Coitions. 2. They not only produce a numerous, but a healthy Progeny, as we see in the small Numbers that die in Infancy and Celibacy. 3. Not only a large and healthy Offspring, but a bold, strong, courageous Brood; such are Children begotten in healthy, temperate, virtuous Lives; and such are often the Children of sober, healthy, hardy Country Labourers. This shews the Policy of Nations who deem themselves too mighty, powerful, or populous, or of Princes aspiring at arbitrary Power, to lay Restraints on the Marriage Bed, and connive at, or encourage, Youth in gratifying their sensual Appetites without Marriage, thereby preventing Fertility both in Males and Females. This would be a Way to thin their Subjects; and the rising Generation, whether by Marriage or Whoredom, will be weakened both by an almost unprolific Seed, and perhaps venereal Disorders, weakening or fatal to Parents and Children, whilst these useless, puny Creatures, begotten in Whoredom, must be supported in Part by the necessitous Poor, whose Children, tho' the Hope and Support of the State, must be thereby pinched or starved. Thus a far greater Mischief is committed to prevent a lesser.

Come we now to some Classes of other Parishes, of which we have only a second Period, no first. In Class first are 39,357 Births, 6395 Marriages, and 24,271 Burials; the first to the second, almost $39\frac{1}{2}$ to 13; and to the third, above 39 to 24. Here are 10,521 Births and Burials, without any Weddings, which subtracted from the Births, there remain 28,936; Births to the Marriages, near $4\frac{1}{2}$ to each. Add to the Married and Emigrants, or Increase, here are 15,186. Where we have the Marriages, here the 13,000 Married, and 15,186 Increase added, leave only 11,271 to die in Infancy and Celibacy.

In the second Class are 11,592 Births, 1913 Weddings for a Part of it, and 10,199 Burials; $4\frac{3}{4}$ Children to each Wedding: Increase, 2393. Where we have the Marriages in this Class, the Births are 8243, and the Burials 6645: Increase, 1598; only 1231 to die in Infancy and Celibacy.

Class third contains Extracts of 40 Parish Registers, whose Births are 28,454, for 5742 of which we want the Weddings; buried, 26,156, for 5100 of which there are no Marriages; so our Births to Marriages are 22,712; Burials, 21,056; Weddings, 5508; a 44th Part above four Children to each Wedding; 11,016 were married, and near 1600 were Emigrants: These two added make 12,600, over and above Incomers, which married and died there; then 9416 died unmarried: Increase, only 1656; but Increase of the whole Class, 2298.

In the 18 Parishes of Class fourth we have 17,591 Births, and 18,540 Burials. Here is a Decrease of 949, near an 18th Part; but as we want Weddings for 3270 Births, and 3493 Buryings, then the Births for the 3626 Marriages are scarce four to each; the Marriages are 7252; about 7100 die unmarried. Thus we have seen some Uses of inserting the Marriages in printed Bills of Mortality, and shall see more hereafter. We have considered the Mischief of Foundling Hospitals, not only as they prevent Marriage; but that they are a national Expence, and often a Nest of weak, sickly, languishing Creatures, as we see in that of *Paris*, where few live to any great Age or Usefulness. How have their Births dwindled in Proportion to their Funerals, since it was erected; tho' many of the Citizens die in the Hospitals, as many send their Children there. They publish their Marriages yearly; but our three Metropolises seem ashamed to put that old unfashionable Word Marriage in their Bills, lest it might affront such as have their Country Villas and Misses. It must be owned that, in many Things, *Paris* has a more strict and exact Policy than their Neighbours.

Here, in Period first, Part first, are some foreign Cities and Towns, which had, in several Series of Years, 798,262 Births, and 919,074 Burials: Decrease, 120,812.—In Period second, in six of them were born 284,579; buried, 342,363: Decrease, 57,784.—In Class first, Part second, Period first, in two of our own Cities and four Market-Towns, were born 770,573; buried, 2,009,627: Decrease, 1,239,054.—In Class second, Period first, in 23 Market-Towns, were 79,959 Births; Burials, 65,514: Increase, 14,445.—In Period second, born, 135,306; buried,

buried, 130,652: Increase, 4554.—Again, we have 23 other small Market-Towns of this Class in two Periods; in the first are 77,630 Births, and 59,530 Burials: Increase, 18,100.—In the second Period are 13 very small Towns; they had 34,032 Births, and 26,700 Burials: Increase, 7322.—In this Class are 17 other Market-Towns; their Births were 65,897, and 75,784 Burials: Decrease, 9887.

Besides other Reasons for taking in two Periods, where I had Opportunity and Influence; one was Mr. *Grant*, and some others, have imputed the Defect of Christenings in the second Period to the great Number of Dissenters *. To know how far this was true, I procured the Account of all the Dissenting Baptisms and separate Buryings for near 20 Years, in the twelve Towns above, which were expeditiously and obligingly returned to me. In these Places, during Part of the first Period, their whole Baptisms were 46,767; their Burials, 51,353; 4586 more buried than born.—In the latter Part of Period second, were baptized 94,943; buried, 83,456; 11,487 more baptized than buried. Here we see, 1st, The Falseness of the above Opinion. 2d, These Places seem healthier now than formerly. 3d, That their old Dissenting Interest is on the Decline, and other Divisions have sprung up since. 4th, The whole Dissenting Christenings, during a Series of late Years, scarce amounted to 7000; and all the Baptisms in those Places were 94,943: Here the former is about 1 to $13\frac{1}{2}$ of the latter.—I took the whole of 48 Towns Baptisms in the first Period, they were 159,686; Burials, 137,588; the Difference was about 22,000, or $7\frac{1}{2}$ Increase.—In 64 Towns in Period second, Baptisms were 274,044; Burials, 264,966: An Increase only of 9080, or an Increase of 1 to 304, at a Medium.—In 103 Country Parishes, in the first Period of the three first Classes, were 95,238 Births, and 70,867 Burials: Increase, 24,371, near 95 to $70\frac{1}{2}$. In Period second, born, 126,652; buried, 99,453: Increase, 27,199, near 126 to 99.—In the four Parishes of Class fourth, Period first, were born 4039; buried, 4470: Loss, 569. Of these Parishes whereof we have only one Period, in 88 Parishes in the three first Classes, born, 76,163; buried, 65,560: Increase, 10,603. In 18 Parishes of Class fourth, born, 17,591; buried, 18,540: Decrease, near 1000.—In some of the healthiest Parishes in Period first, Class first, we have 42 born to $25\frac{1}{2}$ buried; nay, in some, 62 to 38, or 8 to 5; 40 to 23 or 24; 21 to 11; 20 to 10: A wonderful Increase in a Series of Years. On the contrary, our Losses are, Births to Burials, in Class fourth, as 10 to

* The Number of Marriages would have cleared this Point much, by allowing four, or at most four and a Half Children to each Marriage, including Bastards, Twins, and dry Pairs, or comparing the Proportions between Christenings and Buryings, both before 1644 and after 54.

to 11; 26 to 31; 27 to 34; 17 to 19; 22 to 31; 28 to 41, &c. only, what lessens our Waste a little, there may be a Body of Dissenters, whose Baptisms we have not.

It is evident from the preceding Tables, that Habitations situated on a mean Elevation, on hard Free-Stone Rocks or Mountains, lying near quick-purling Streams, the Ground about it dry, no Woods or Forests very near, no stagnant Waters, Fens, or Morasses, a free, open Ventilation, especially in hot Countries, not thrust up between steep lofty Mountains, nor thrust down too low among constant ouzing Springs, without proper Descents to carry off the draining Water from the Hills, the Increase of such Places is as 20 Births to 11 Burials; 40 to 23 or 24; 34 to 19.

The next Situation, on dry, pebbly, gravelly Soil, meanly situated both as to great Drought and Floods, having Woods in View, but not too near; remote from Lakes, or stagnant Waters or Marshes, but having brisk-running Brooks, or small Rivers; not far from navigable Rivers in the Center of a Country, the Increase, in such Situations, at a Medium, is a Third, or above.

A thick Clay, on an elevated Ground where no Water stands, is no bad Situation; or Sand and Clay or good Loam, or very hard Lime-Stone under a fruitful Turf, are pretty good Situations; but dry, pouring Sand, Chalk, soft Lime-Stone, &c. are not the healthiest Situations.

Fenny, marshy, low, wet, and long-flooded Situations; spungy, ouzing, soft, springy Ground, always wet, near to uninclosed, dry, great Woods or Forests, are all unhealthy Habitations, which often bury more than are born; all which are fully proved from this Table.

But the healthiest Situation is insufficient of itself, without establishing and maintaining a good Policy; such as pulling down old Houses, Huts, and Kennels, and building new ones with higher Rooms and larger Lights; giving Liberty of Access to free, clean, open, fresh Air; removing all Nuisances; keeping clean Streets, Folds, and Yards; being provided with pure, wholesome Water; taking Care of their Shambles, Draught-Houses, and Markets.

A third Thing necessary to promote the Health of a Place, is an indefatigable, faithful, impartial Magistracy, who exemplarily, preceptively,
H and

and executively promote Virtue, Morality, and good Order, but curb, and vigorously suppress, Vice: And a Government that encourages Marriage, but punishes Whoredom and Adultery, and the Gratification of all unnatural Lust. And, in our Colonies, Marriages and Intermarriages with the Natives, making none of them Slaves, nor using them cruelly and fraudulently but mildly and equitably; sending no indigent nor vicious Persons among them for Governors, to strip, oppress, and abuse the Natives and Inhabitants, nor ignorant, debauched, or idle, to corrupt their Principles and Morals; let Learning be speedily spread and encouraged; these Things will strengthen us, gain the Affection of the Natives, make us easier, and them happier.

The Business of a Place being known, whether it be in Trade, Manufactures, Husbandry, or Sea-Port; and Dissenters Baptisms being taken and added to the public Register, it will be easy to come pretty near the true Number of Families and Souls in Towns, Cities, Countries, or any District of a Country, whose true and exact Registers you have, thus: Take the yearly Number of Baptisms of any Parish, Town, or Country, at a Medium, multiply these by 7, (which supposes each 7th Family to have a Child yearly) multiply that again by $4\frac{1}{2}$, or 5 Souls at a Medium, (for in many Places there are not above 4 to a Family, but rarely exceed 5) the Product is the Number of them. To be fully satisfied of this, I procured a true Number of Families and Souls in 14 Market-Towns, some of which are considerable for Trade and Populousness, as *Norwich, Sheffield, Halifax, Huddersfield, Gainsbrough, &c.* and in them were 20,371 Families, and 907,611 Souls; little above $4\frac{3}{4}$ to each Family.

To find whether, or what is the Difference between Towns of Trade and Country Parishes, I procured, from divers Parts of the Kingdom, the exact Number of Families and Souls in 65 Country Parishes, their Families were 17,208; Souls, 76,284: Little above $4\frac{1}{2}$ to a Family, as was briefly shewn before. Again; take the Number of Marriages and Births of any Town, or a large Number of Country Parishes; I took their Marriages for a Series of Years, and they were 14,607; Births, 65,759; about $4\frac{1}{2}$ Children to each Marriage. A surprizing coincident Proof of the other, considering there were several Dissenters in them; for, in the general, Country Births run at 5 or $5\frac{1}{2}$, but very rarely 6 to each Marriage, exclusive of dry Pairs, late Weddings, or second or third Adventures, for the Convenience of Life, and not Procreation; but in many Towns they do not often exceed $3\frac{1}{2}$, rarely reach $4\frac{1}{2}$: So that Weddings give a great
Light

Light into the Number of both Families and Souls, but especially if the like Series of Years be taken of Births and Weddings in both Periods: This at once discovers if there is any Alteration in the Periods, as to Health, Increase, Decrease, Fruitfulness, Barrenness, &c. which is one of the special Uses of Marriages to be given in the Bills of Mortality. If the Place is a Surrogacy, where there have been many extraparochial Weddings, without near a like Number of Marriages going out of the Parish into others, this will alter the Case much; but, by taking in a Circuit of a good many neighbouring Parishes together, you have them all again; only Roman Catholic Baptisms you cannot procure; all others you may have, by applying for them in a proper Manner; or, if you find it difficult to procure them, you may without any Labour take the yearly Medium of Marriages, multiply them by $4\frac{1}{2}$, so will you have the Number of Births registered and unregistered. Take also the like Number of Marriages yearly at a Medium, before 1644, and see the Number of Children that fell to each Wedding.

Take one Instance more. Tho' *London* may be granted to be the greatest City in the *European* or Western World, yet it is too much to say, with Mr. *Maitland*, it is the greatest that is, or ever was, in the World, even greater than antient *Rome*, *Nineveh*, *Jerusalem*, *Babylon*, *Grand Cairo*, *Naples*, &c. As to *Rome*, tho' it was 50 Miles Circumference in it's 507th Year, viz. 240 Years before *Christ*, when a Census was taken of the Citizens fit to bear Arms, and they were 297,799. Allowing then 34 defensible Men out of each 100 People, the Inhabitants would be at least 893,397; a greater Number of Inhabitants than ever was in *London* at one Time. Seventy Years after, viz. in the 583d Year of the City, and 161 Years before the Birth of *Christ*, the Number of defensible Men in *Rome* was 337,552. In the 744th Year of the City, and 13th of *Augustus*, at the Birth of *Christ*, the Inhabitants of *Rome* were 4,233,000. In the 13th Year of our Saviour, the whole Number of Citizens, Men, Women, and Children, were taken by *Augustus*, and were 4,137,050. At that Time, *Eusebius* says, the Number of Citizens of *Rome*, and all the Provinces, was 9,370,000; but the great Census over all the *Roman* Empire, at the Birth of our Saviour, is long since lost. But to what a low Ebb is this great *quondam* Mistress of the World now come, when, in the Year 1761, all her whole Inhabitants were, Males, 90,239; Females, 67,213; both, 157,458? Which yet is 22,000 more than *Maitland* allowed them. The great Superiority of Males is owing to 1053 Hospitallers, 8096 Ecclesiastics, and 37 Protestants. *Turks*, *Jews*, and Infidels, not in the above

H 2

Account.

Account. Born in *Rome* in 1759, 60, and 61, 15,500; Medium, 5167; Buried, 41,460; Medium, 7110; a 22d Part died yearly; and a Number equal to the whole is born in 32 Years. But subtract the None-Breeders, viz. Hospitallers and Ecclesiastics, 9149, remain 148,309; then the City produces near the like Number in $31\frac{1}{2}$ Years. No Wonder there were 23,000 more Males than Females, when so many had made themselves dry Trees for the Kingdom of Heaven.

As to *Nineveh*, we know no more of it but what we have in *Diodorus Siculus*, *Jonah*, *Zephaniah*, and *Nabum*. The first tells us the City was 60 Miles in Circumference; the second says it was a City of three Days Journey; and God said it contained 120,000 Children who knew not their Right Hand from their Left; for whose Innocence Sake God was mercifully pleased to spare that great City, and not for the Sake of his helpless, shiftless Wretches, as wicked and guilty as the rest. Now we may easily grant that in such a grand Policy and imperial Metropolis, Children were taught to know their Right Hand from their Left before they were five Years old, however we shall take it at five; here God speaks of the Living, not of the Dead. In *London* we see yearly, at a Medium, of every 1000 born 450 die under five Years old, and 363 under two Years old: But allowing *Nineveh* to be more favourable to Children than *London*, and not 450 died under five Years old, but only 300, which is a third Part less, which, added to the Living, would make the yearly Births above 31,000, the yearly Product of 217,000 Families, and 1,302,000 Souls; yet the Prophet *Nabum* implies it to be inferior to *Noamon* in *Ægypt*. The Prophets compared it to a Pool of Water for the Multitude of it's People. The King of *Babylon* mustered his most valiant, experienced, veteran Armies against it, yet could not take it from the numerous Hosts of the Besieged in it, till the *Tigris* broke down the City Wall, and gave Entry to the Besiegers.

As to *Jerusalem*, we are more ignorant of it than *Nineveh*; only *Jehosaphat* kept an Army about him of 1,140,000, besides Forts, Guards, and Garrisons, (2 *Chron.* xvii.) besides an innumerable Company of Priests always attending the Service of the Temple, and all his Court and Officers. *Ann. Dom.* 66, *Cestus Gallus* made a random Computation of the *Jews*, from the Multitude of Lambs offered in their great Passover, which he found, on a true Account, to be 3,560,000. One Lamb might serve for 20 Persons, but not fewer than 10, besides those secluded for legal Pollution. Tho' 15 is the Medium between 10 and 20, yet, to make a very moderate

moderate Computation, allowing only 12 to each Lamb, then the total Number of *Jews* met, or represented there out of *Judea* and that Neighbourhood, (exclusive of their Colonies in *Babylon*, *Ægypt*, and the *East-Indies*) must be 42,720,000, tho' it cannot be certainly ascertained how many of them were Inhabitants of the City. What a monstrous Multitude for so small a Spot of Ground! The whole Length of the *Holy Land*, from *Sidon* to *Gaza*, was only 190 Miles; it's common Breadth, from the *Mediterranean* to the River *Arnon*, Mount *Gilead*, and *Geshur*, is 175 Miles; it's whole Area, 33,250 square Miles.

What would our Author say of *Gowro*, the Capital of *Bengal*, on the *Ganges*, which, *Astley's Travels* say, in 1631 and 33, was computed to contain 1,200,000 Families; a 14th or a 15th Part whereof is equal to *London*.—*Palæsinandus*, the Capital of *Ceylon*, in the Emperor *Claudius's* Time, contained 200,000 Souls.—*Smyrna*, in *Le Bruyn's Travels*, contained 38,000.—The *Modern Universal History* says *Algiers* contains 117,000 Souls.—*Tunis*, 1600 Families and 10,000 Souls.—*Minorca*, in 1750, had 3089 Houses and 27,000 Souls.—*Maitland* will allow *Grand Cairo* only 300,000 Inhabitants, tho' in 1619, in ten Weeks Time, it lost by the Plague 73,500 People, yet no Diminution of it's Inhabitants was visible.—He allows *Naples* only 250,000 People; but in 1656, from *April* to the End of *August*, died in it of the Plague, 300,000. Here died 50,000 more than he will allow, in the whole, to be in it.

After *Rome* let us consider *Paris*. From 1728 to 37 the Medium of it's yearly Births was 18,688; Marriages, 4112; Burials, 17,804. In eight Years preceding 1762, were born 156,186; Medium, 19,523; married, 34,995; Medium, 4374; buried, 157,201; Medium, 19,750. As from 1728 to 1737, 2471 died yearly out of the Foundling Hospital; so allowing only 2500 to die yearly in the eight Years before 1762, then the whole Number of the Dead for these 17 Years will be 517,440. As this Hospital is reckoned with the City, and both City and Country supply it with Increase, yet it's Decrease ought properly to be added to the City; then in these 17 Years 59,355 more died than were born. We shall find it pretty near the same in *London*, if we subtract from the whole Burialings those that died under three or five Years old.

Born in *Vienna*, from 1717 to 1727, 43,333; Medium, 4333; buried, 59,255; Medium, 5925; yearly Decrease, 1417. Born there in six Years preceding 1762, 30,340; Medium, 5056; buried, 36,399; Medium,

dium, 6066; Decrease, 1009, or a 6th Part. In 1738 and 39, born, 11,686; Medium, 5843; buried, 13,521; Medium, 6760; Decrease, 1835; so that the War affects *Vienna* as well as *London*.

Born in *Berlin*, from 1712 to 32, 52,286; Medium, 2614; married, 14,182; Medium, 709; buried, 52,590; Medium, 2629; near $3\frac{3}{4}$ Children to each Marriage, or a yearly Decrease of 45 only. In 1722, 23, 26, 28, 38, and 39, the State, Sex, and Age of the Buried were, Men, 7895; Women, 6772; Boys, 11,460; Girls, 10,509; Total, 36,636; Medium, 6166. Here young People's Death is to that of Adults near 22 to $14\frac{1}{2}$; Boys to Girls, near 16 to $11\frac{1}{2}$; Men to Women, near 79 to 68; which shews, 1. The Expedience of Marriage Settlements. 2. The Preference of Leases on Women's Lives rather than Men's. 3. The greater Mortality of Males than Females.

In *Dresden*, from 1617 to 1648, born, 16,826; married, 5054; buried, 27,348. In this Space they had the Plague four Times, wherein died about 9000. From 1700 to 1717, born, 19,820; married, 5130; buried, 21,050: In the first, a Decrease of 10,522; Marriages to Births, near 5 to 17. From 1700 to 1717, born, 19,820; married, 5130; near four Children to each Marriage; buried, 21,050: Decrease, 1235. From 1719 to 1726, born, 11,603; married, 3052; buried, 11,571: Here is a small Increase of 32; so that in each Period the City becomes more healthy.

In *Augsburg*, from 1500 to 1720, Births, 304,638; married, 85,564, little above $3\frac{1}{2}$ to each Wedding; buried, 342,230: Decrease, 37,592. From 1504 to 1635 were 23 Years of the Plague, or rather 18 Years of it; thrice it lasted only a Year at each Time; eight Times it continued Part of two Years each; once four Years; and in 1704 one Year; 24 Years in all; wherein were born, 39,521; married, 12,576, little above three to each Wedding; buried, 95,625; Born to Buried, near 2 to 5.

In *Breslaw*, from 1555 to 1567, born, 17,959; Medium, 1360; died, 16,258; Medium, 1163: Increase, 1501. From 1724 to 1734, born, 12,776; Medium, 1277; buried, 16,057; Medium, 1605. Between 1568 and 1633 the Plague raged seven Times here, during which seven Years were born 7379, and 43,153 died. The Year 1633 was most fatal of all; in it were born 1066; buried, 13,231; above 12 to 1. In 1613 was the most favourable Plague; in it were born 1093; buried, 2357; near

near $2\frac{1}{2}$ to 1. From the last Plague, in 1633 to 1734, in a compleat Century were born 108,919; buried, 125,685; Decrease, 16,766; near as 13 to 15.

In *Freyberg*, from 1617 to 1717, were born 28,851; married, 7546; buried, 30,295: Born in the first seven Years, 3052; married, 748; buried, 3249. In the last seven Years born, 2307; married, 586; died, 3295. The Plague was here favourable in 1625, 26, and 27; but it was severe in 1630 and 32, and killed 2457.

In *Leipsic*, from 1719 to 1726, and in 57, 58, were born 8282; buried, 13,201.—In *Dantzick*, from 1719 to 1726, born, 13,270; married, 3406; buried 11,111.—In *Amsterdam*, from 1716 to 1724, were born, 52,537; Medium, 7505; married, 16,430; Medium, 2347; buried, 32,532; Medium, $4647\frac{1}{2}$; little above $3\frac{1}{4}$ Children to each Marriage: A surprizing Increase. From 1728 to 1737, buried, 79,603; Medium, 8844. In nine late Years born, 44,349; Medium, 4927; buried, 75,244; Medium, 8361.—In *Copenhagen*, from 1721 to 1725, buried, 8911; Medium, 2202. In four late Years born, 6012; Medium, 1503; buried, 9024; Medium, 2256. In 1765, born, 2541; married, 1033; buried, 1601.—Died in *Koningfberg*, in 1720 and 21, 3172; Medium, 1586.

Of all the foreign Registers come to Hand, those of the *Prussian* Dominions are the most extensive, tho' they reach backward for a short Time only, and have several Chasms of some Years; which being tedious, I shall not draw out in annual Tables at Length, but give first a short Abstract, and then be a little more particular. Each Place has ten Lines; the first for the first Years of each Place; the second for the last Years, for which we have the Register. After Column 1st, the Births; 2d, the Marriages; 3d, the Burials; 4th, 5th, and 6th, the yearly Medium of Births, Weddings, or Funerals; 7th, the total Increase or Decrease marked.

In *Stockholm* die yearly, at a Medium, 1500. In 1762 born, 2237; died, 3092.—At *Francfort* on the *Main*, 1843 yearly.—In *Brunswick*, 1014.—In *Neurenberg*, from 1726 to 1733, 1063.—In *Ulm*, in 1703, died 844.—In *Zurick*, in 1719, 656.—In *Magdeburg*, from 1731 to 36, died yearly, at a Medium, 645.—In *Erfurth*, from 1724 to 1729, yearly, 602.—In *Wirtemberg*, in 1734, &c. yearly, 317.—In *Venice*, in 1724, 5, and 6, yearly, 2352. In 1761, born, 4819; died, 7013.—

In

In *Hamburg*, in 1702, 3, and 4, yearly, 1009.—In 1718, in 19 Cities and Boroughs of *Saxony*, born, 3211; married, 1481; buried, 4909.—In 40 *Prussian* Boroughs, in 1718, were born 20,994; married, 4287; buried, 11,057.—In *Eperies*, in six Years, born, 1191; buried, 783.—In 75 Country Villages in the Elector of *Mentz's* Dominions, from 1720 to 1723, born, 2155; married, 555; buried, 1772.—In *Lobau*, in three Years, born, 452; married, 166; buried, 661.—Again, as to the State, Age, and Sex of the Dead. In *Vienna*, from 1700 to 1717, were buried, Adults, 30,216; Children, 35,188 (near 30 to 35); both, 65,404.—In *Barcelona*, in *Spain*, in 1760, born, 2608; died, 1976.—At the *Hague*, in 1761 and 62, died, 3021.—In *Harlem*, in 1761 and 62, died, 1329. In 1762, born, 256; died, 253.—In the several Dioceses in 1762 were born, in *Wybourg*, 1805; died, 1419. In *Rypen*, born, 3470; died, 2973. In *Aggerhus*, born, 10,691; died, 7190. In *Drontheim*, born, 5400; died, 3703. In *Christiana*, born, 3711; died, 2978. In all the five Dioceses born, 24,877; buried, 18,263.—In *Boston* in *New-England*, born, in 1761 and 62, 830; died, 838, besides 149 Blacks.

Royal Prussia and Brandenburg, from 1658 to 1701	199504	54092	136709	66051	18030	45569	62725
Both, from 1726 to 29	240918	62844	194917	80306	20948	64972	46001
Royal Prussia, from 1698 to 1703	120461	30320	72870	24092	6064	14574	47591
1722, 3, 4, and 7	83346	18331	47068	20836	4582	11767	36278
Brandenburg, from 1698 to 1703	67167	17987	38029	13433	3597	7605	29138
1718 to 23	86148	22581	70203	17229	4516	14040	15945
Nieumark, from 1695 to 1702	27167	7183	17415	5433	1436	3483	9712
1720 to 23	33107	8583	24480	6621	1716	4956	8327
Magdeburgh, in 1691, 93, 94, and 98	21923	5565	17712	5480	1391	4428	9592
1720 to 25	40914	10032	31322	8182	2006	6264	3103
Halberstadt, from 1682 to 94	11745	2984	8642	2349	596	1728	1857
1724, 27, 29, 32, and 36	13548	3569	11691	2709	713	2338	
Hohenstein, from 1692 to 97	2554	710	1743	510	142	348	811
1727, 29, 32, and 36	2463	696	1836	615	174	459	627
Minden, from 1688 to 93	8878	2124	5836	1775	424	1667	3042
1718 to 23	9694	2427	8666	1938	485	1733	1023
Cleve and March, from 1698 to 1703	31390	8623	24942	6278	1724	4988	6448
1719 to 24	33799	9142	30879	6759	1828	6176	2820
Pomerania, from 1698 to 1703	33486	3100	22048	6697	1820	4409	11438
1720 to 1725	39764	10114	26285	7952	2022	5257	13479

In all *Royal Prussia* and *Brandenburg*, in the first Years, were born, yearly, 66,051; married, yearly, 18,030; buried, 45,569: Yearly Increase, 20,492. In the last Years, 25 Years after the first, born, yearly, 80,306; married, 20,948; buried, 64,972: Yearly Increase, 15,334. In the first Year's Division of all the King of *Prussia's* Dominions as above, born yearly, at a Medium, 66,047; married, 17,194 (somewhat less than four Children to each Wedding); died, 42,730: The yearly Increase, at a Medium,

dium, 23,317; above one Third. Married Persons and Increase added, make 57,605; then there remain only 8442 to die in Infancy and Celibacy. The Division of the last Years in the Registers above, is 72,841 born, 18,010 married, and 53,084 buried; Increase, 19,757: Births to Burials, not 73 to 53; much short of the first Increase, yet near four Children to each Marriage. The Death of such as are reckoned to die in Infancy and Celibacy is also much greater than in the former Divisions, *viz.* 17,064, above double. What greatly contributes to the Healthiness of *Prussia*, is, they have no very great populous Cities, nor such monstrous Consumptions of Spirituous Liquors by the Populace, as we had for 20 or 30 Years after 1724. Nor have they any Royal Foundling Hospitals to encourage Whoredom, and prevent Matrimony, under the Cloak of lessening or hindering Infanticide (but more of this hereafter); neither have they any considerable foreign Trade or Plantations.

All the preceding Tables lie within the Compass of a few Years, from about 1690 to about 1730. All the Births, Marriages, and Burials in *Royal Prussia* and *Brandenburgh*, from 1698 to 1729, were, born, 1,238,869; married, 316,122; buried, 902,326; Increase, 336,543: Births to Burials, near as 134 to 90, above a Third; 25,619 above half the Born were married. Every Thing proves this to be a healthy Country; but, to shew this clearly, let us view them separately.

And first *Royal Prussia*, whose Register we have from 1693 to 1728, (except 1695, 96, 97, 1725 and 26) wherein were born 714,130; married, 150,899; buried, 392,898: Births to Burials, in 93 and 94, as 12 to 10; in the next five Years, as 16 to 10; in the next five Years, as 17 to 10; from 1712 to 28, as 17 to 10. In 1709 and 10 the Plague raged fore, and killed 247,733; especially in 1710, wherein died 188,537, and the Births scarce 20,000. Exclusive of 1709 and 10, the Increase of the other Years was 321,232, which added to 301,798, (the Number of Persons married) both are 603,030. After the Married and Exports remain only 111,100 to die in Infancy and Celibacy, being to the Burials about 71 to 39: A surprizing Increase. Yet here is no Necessity for the Corrections of War, Famine, and Pestilence, to check the too sudden and over Increase of People in such healthy Places; these are the Chastisements of Men's Impieties, for He that made the Earth can as well command it to be barren as fruitful, and the Air and Seasons to be bad as good. 2. Here we see another Providence, that the Places in general not the healthiest (as are many Places in *Britain*) have fewer or milder Corrections or De-

I

populations,

populations, but die more gradually. 3. When such Calamities break out in the healthiest Places and purest Air, they make most terrible Havock; for here, in 1710, they buried more than, at a Medium, died in 12 Years before; and if we include those that died at the latter End of 1709, the whole will amount to near as many as died in 16 Years before, at a Medium. Births probably were few in that Time, both because of the universal Panic, and as Venery is known to be hurtful where the Plague reigns, and the New-married are apter to gratify their Inclinations. 4. It is rare that Providence visits a whole Nation at once with Plague or Famine; but, except in the third general Plague after *Christ*, some Part escapes to assist the other, provide Provisions, keep on Trade or Business, procreate Recruits for the depopulated Places, or receive Instruction and Reproof from the Example of others. 5. Often those Places that have given Heaven the greatest Provocations, are the first and chief Sufferers, to give others Warning.

In 28 Years, in the Electorate of *Brandenburgh*, were born, 416,652; married, 112,023; buried, 283,837; the Proportion of Born to Married, near $41\frac{1}{2}$ to 22; above one Half married. The whole Increase is 132,815; this added to the Number of Married, 224,046, make 356,866; after which, of all the Baptized, remain only 59,791 to die in Childhood, Youth, and Celibacy, not an eighth Part. The Proportion between Births and Burials is in all Places varied several Times, according to the Sicknefs or Healthiness, Fruitfulness or Barrenness of the Rational, Animal, and Vegetable World, and natural Causes producing them; 1693 was the most fatal, 94 the most barren, many of the Breeders being dead the Year before; tho' 1500 more were born than died; but in 1719, tho' a very fruitful Year, yet 322 more died than were born.

In the *Newmark* of *Brandenburgh*, in 28 Years, viz. 1695 to 1737, (1696, 97, 1704, and from 1724 to 36 are wanting) born, 170,901; married, 44,601; buried, 117,991: Increase, 52,910. The married Persons were 89,202; Born to the Married, above $170\frac{1}{2}$ to 89; Born to the Buried, above 170 to 117; Buried to the Married, 118 to $89\frac{1}{5}$. The Married and Increase added, are 143,112, remain 27,789 to die in Infancy, Youth, and Celibacy, or an equal Number to that.

In all *Pomerania*, in 25 Years, from 1698 to 1725 (1702 and 1706 being wanting) baptized, 185,515; married, 48,987; buried, 124,565: Increase, 60,950; Baptized to Married, as 185 to 97. The Increase and Married are 158,925, remain 26,691 to die at home in Celibacy.

In

In all *Magdeburgh*, in 32 Years, viz. from 1692 to 1737 (1692, 95, 96, 97, 1704, 12, 25, 26, 28, 29, 30, 31, 32, and 34 being wanting) were baptized, 235,312; married, 59,659; buried, 171,671: Increase, 63,641; married Persons, 119,318; both subtracted from the Baptisms, remain only 52,353 to die unmarried of all Ages.

In *Halberstadt*, from 1689 to 1737, (wanting 1725, 26, 28, 30, 31, 33, 34, and 35) 40 Years, were baptized, 98,714; married, 25,724; buried, 72,875: Increase, 25,824. Persons married, 51,448; both the last, 77,272; subtract this from the Births, remain 21,442 to die unmarried.

In all *Hohenstein*, in 33 Years, from 1692 to 1737, (wanting 1701, 2, 23, 24, 25, 26, 28, 30, 31, 33, 34, and 35) were baptized, 18,523; married, 4931; buried, 12,852: Increase, 5676. These and the Marriages are 15,533, which subtract from the Births, remain 2990 to die in Celibacy.

In *Minden*, in 37 Years, between 1688 and 1725, were baptized, 56,656; married, 17,780; buried, 51,990: Increase, 4666. The Increase and Marriages are 39,626; remain to die in Celibacy, 17,030, or 17 out of 56 $\frac{1}{2}$; a larger Number than most of the other.

In *Cleve* and *Marck*, in 27 Years between 1693 and 1725, were baptized, 179,844; married, 50,641; buried, 146,399: Increase, 33,445. These, with the Married, are 134,727; died in Celibacy, 45,117.

The following short Table gives all the *Prussian* Dominions at one View. Column 1st, the Number of Years we have the Register of each Province; 2d, the Births; 3d, the Marriages; 4th, the Burials; 5th, the Increase.

16	1238869	316122	902326	902326
30	713130	150899	392898	321232
28	416652	112023	283837	137815
28	170901	44601	117991	62910
25	185515	48987	124565	60940
32	235312	59659	171671	74372
40	98714	25724	72875	25839
33	18523	4931	12852	5671
37	56656	17480	51990	5666
27	179844	50641	146399	33445
	3314116	831067	2277404	1626216

Here are near four Children to each Marriage, Bastards included. Births to Burials, near 83 to 64; Christened to Married, as 83 $\frac{1}{4}$ to 42 $\frac{6}{10}$. Married and Increase added, and subtracted from the Births, there remain only 437,766, scarce a Number equal to a fifth Part to die in Celibacy. A wonderful Fruitfulness.

In the two Periods in the Table before this, in the first Period we find the Women more fruitful than in the second; herein each Marriage produced only $3\frac{3}{10}$ Children; in the former, near 4.—In the first was a greater Disproportion between Baptisms and Burials than in the second, *viz.* 524 to 345 $\frac{1}{2}$. In the second, 583 to 447. In the third, the Difference between Baptisms and Burials was greater in some Places than others in the first Period, as in N^o. 1, 3, 5, and 8, where there was above a Third more baptized than buried; as there were baptized, at a Medium, 78,641; buried, 53,809. In others, near two Fifths; as fourth and eighth Mediums, 5943, 3830. In some Places little above a Fifth; as N^o. 6 and 10, 11,758, 9416. In the same Period, in the Medium of N^o. 1, the Married were to the Buried, as 36 to 45 $\frac{1}{2}$; only a Fifth more buried than married. In Article second, 12 to 14 $\frac{1}{2}$. But Article third is surprizing, wherein 13 $\frac{4}{10}$ are born, only 7 $\frac{6}{10}$ are buried, and only one 15th more buried than married. Article fourth, 28 married for 34 buried. Article fifth, 36 to 44. Again, Article sixth is not full 27 to 44; seventh, scarce 11 to 17; and tenth, 34 to 50.—In the second Period of Medium N^o. 1, Married to Buried, 41 to 65. Article second and third, near 90 to 117; eighth, 2 to 4; third, 34 to 49; fifth, 40 to 52; sixth, 40 to 62 $\frac{1}{2}$; seventh, 14 to 23; ninth, 96 to 137; tenth, 36 to 61 $\frac{1}{2}$; that is, upon the whole, near 77,000 to near 118,000; but, in the Medium of Period first, it was near 70,000 to 88,000; only 2000 above a Fifth more buried than married.

In Article first of Period second, little above a Fifth Odds between Baptisms and Burials; but, in the first, little more than a Third Difference. Article second, more healthy, being 20 to 11, and the first Period 24 to 14 $\frac{1}{2}$. In the third, only 17 to 14; yet, in the first Period, 13 $\frac{3}{10}$ to 7 $\frac{3}{5}$. Period second, Article fourth, near 66 to 49. In the first, near 54 to 34. Article fifth, Period second, 79 to 52. In the same Period, 66 to 44. Article sixth, Period second, 81 to 62. Period first, 54 to 44. Article seventh, Period first, 23 to 17; second, 27 to 23. Article eighth, Period first, 51 to 34; second, 61 to 45. Period first, Article ninth, 17 to 11; second, 19 to 17. Article tenth, Period first, 62 to 49; second, 67 to 61. Upon the whole, the Baptisms in the first Period bear a Proportion to the Buryings, near as 132 to 88 $\frac{1}{5}$; and in the second, near 153 to 117 $\frac{4}{5}$; so that the latter is increased between 7 and 8000 in the Burials. May we hence conclude, in the general, that the more populous a Country is, the less healthy it is? Or is a Country universally less healthy, or only in some Places of it, and which are they? And what are the Causes?

A T A B L E.

Column 1st, the Families; 2d, the Number of Souls in the Country Places as they were numbered in 1738; 3d, their yearly Funerals taken at a Medium.

1	Prussia	110093	475040	12876	Alive in <i>Marck-Brandenburgh</i> , in 1736, Males, 3888; Females, 4458; both, 8346; 570 more Females than Males.
2	Chur. Marck	204392	424445	12127	
3	Cleve	70493	232040	5801	
4	Magdeburgh	74657	226200	5655	
5	Pomerania	80888	221800	5545	
6	Nieumarck	61388	190000	4750	Alive in <i>Prussian Chur.</i> in 1738, Males, 318,677; Females, 347,183; both, 665,860; 28,506 more Females than Males.
7	Halberstadt	35472	83500	2089	
8	Ravensburgh	23706	81000	2026	
9	Minden		63500	1588	
10	Lingen		24120	603	
11	Gildern		21280	532	<i>Alsace</i> , of it's Births and Burials we know nothing; only in it's three Divisions are 66 Towns, 1065 Villages, and 55,481 Persons in them.
12	Fecklenberg		18120	453	
13	Hohenstein		17100	428	
14	Lauenburg		14680	367	
15	Bulow				
15	Moers	4851	13640	341	
16	French Colonies		12000	300	
		666940	218465	55481	

In 1738, in *Brissgau*, 65,352 Souls; whereof were Papists, 63,180; *Lutherans*, 1050; Reformed, 225; *Jews*, 897.—2. *Straßburgh* contains 122,735, viz. Papists, 70,970; *Lutherans*, 45,740; Reformed, 4558; *Jews*, 1467.—3. *Landau*, 68,913; Papists, 37,594; *Lutherans*, 22,258; Reformed, 7350; *Jews*, 1801.

In all *Alsace*, 257,000 Souls; of which 171,654 are Papists; *Lutherans*, 69,048; Reformed, 12,133; *Jews*, 4165.

Susmilch. *Bassville* tells us that in *Languedoc* are 5625 Priests, 3060 Monks, and 2491 Nuns; in all, 11,176; their Livings 2,500,000 Livres.—*Moreri* says, in 1655, in *France*, Abbeys were 1356; Priories, 12,400; Abbeßes, 256; Chapels, 152,000; Cloisters of *Franciscans*, 761; and 14,070 Cloisters; of other Orders, 1057.—In *Spain* are 1,790,000 of the Religious Orders. The like is probably the Case in *Germany*, *Hungary*, *Bohemia*, and *Poland*; as for *Italy*, it would be too little.

In *Berlin*, in six Years, viz. from 1734 to 40, born, 21,024; Medium, 3504; married, 5056; Medium, 842; buried, 21,838; Medium, 3639. Number of Souls then in *Berlin*, Males, 32,990; Females, 35,207;

35,207; both, 68,197; more Females than Males, 2217. It buries above the Number of Living in 19 Years: therefore Children have not been taken into the Account, as is clear from their burying a Number equal to the Inhabitants in 19 Years, which is not true.

The Number of HOUSES in HOLLAND.				
In 1632	In 1732	Increase	In 1632, all the Towns in South Holland had Houses	59410
In Amsterdam 16051	26035	9984	All North Holland had Houses	12772
Leyden — 8374	10891	2517	In 1732, South Holland had Houses	79957
Harlem — 6490	7963	1473	North Holland had Houses	11154
Rotterdam 5048	6621	1573	Increase in South Holland Houses	20547
Delf — 4842	4870	28	Decrease in North Holland Houses	1618
Dordrecht 3386	3954	568	In 1732, Houses in the Country of South Holland	46932
44191	60334	16143	Houses in the Country of North Holland	25419

In 1632, in Grovenhagen	3160	In 1732 -	6161
Gouda	2452		3971
Enethuifen	3895		2605
Aleamar	2795		2581
Hoorn	2715		2807

The first and second increased 4515; the third and fourth decreased 1504; the fifth increased 92.

Having taken a View, as far as we had Materials, from many Soils, Situations, Ways of Life, &c. in *England* from South to North, and East to West, both in Cities, Towns, and Country, and often in two Periods; and observed the several Degrees of Life, Health, and Fertility from their Emigrants; and Sickliness, bad Health, and Sterility in others, and their Necessity and Want of Imports and Incomers; and for this what great Supplies and Drains must be had out of the Country, beyond what it is now able to spare; and that the Nation, at present, has not half the Number of People it's Produce would sustain, by using proper Agriculture and good Œconomy, besides the necessary Supplies of Colonies and Plantations, and recruiting our Land and Sea Service. Yet many impolitic Restraints are laid on the Marriage Bed, and a Bill denied for naturalizing foreign Protestants, whilst we are sending into other Countries to glean up and solicit Emigrants from thence to begin the peopling of our new-ceded Colonies, which we were too weak either to people, keep, or defend against powerful Enemies. We have also looked into the State of our Neighbours in this Respect, and seen how some flourish and increase by settling and maintaining a good Policy, as *Prussia* and the *Dutch*; others languish, and increase slowly.

I should next come to see how the State of Health stands in the *Indies*, but am furnished with no Accounts of that Sort from the *East-Indies*; and

and tho' we have so great Interest in the *West-Indies*, yet I have only one small Scrap to produce from thence, which we have from the *Gentleman's Magazine*, Vol. XIX. p. 533. That in 1738 the Number of Whites in *New-Jersey* were 43,388; Slaves, 3981; in all, 47,369. Seven Years after, in 1745, the Whites were 56,797; Slaves, 4606; in all, 61,403: Increase, 15,034; near a fourth Part: That of the Whites was near $56\frac{1}{2}$ to 43; of the Slaves, 46 to 39: The Increase of the former to the latter was as $13\frac{1}{2}$ to 7. Hereby it appears that this Province would near double it's Inhabitants in 28 or 29 Years. I am informed that *Rhode-Island* doubles it's Inhabitants in the same Time, or less.—All *New-England* is exceeding healthy. *Jamaica* lying so near the Line, and having so many Swamps and Marshes, is as unhealthy. *Virginia*, or great Part of it, is said to be very unhealthy.—In all the Burying Ground of *Philadelphia*, from 1738 to 1745, were buried, 3189; yet it is a healthy Country; but in 1750 there was a great Increase. In *Massachusetts Bay* the Increase is reckoned a sixth Part, and *New-Jersey* above a fourth.

A very learned, ingenious Gentleman observes, that, according to the latest Maps and best Geographers, *England* contains about 64,800 Miles, 41,472,000 Acres of Land, and 5,500,000 Inhabitants.—*Scotland* contains about 30,000 square Miles, 19,200,000 Acres, and 2,500,000 Inhabitants.—*Ireland* contains about 25,000 square Miles, 16,000,000 Acres, and 2,000,000 of Inhabitants: So that *Britain* and *Ireland* are computed to contain 76,672,000 square Acres of Land, 119,800 square Miles, and about 10 or 11,000,000 of Inhabitants.—In our Plantations the Number of Whites are 835,800; Negroes, 190,000. In the Sugar Islands are 153,500 Whites, and 257,000 Negroes; in all, 1,436,300. In both *England* and the Plantations are 11,436,300; so the Proportion of Inhabitants computed to be at home, and those in the Plantations and Sugar Islands, are nearly as 10 to $1\frac{1}{2}$, or as 3 to 20. The Proportion of Land in these three Kingdoms to that in the Colonies, nearly as 1 to 24.—Take we our old Plantations in *America*, the whole were 236,544,000 Acres; in the Sugar Islands, 4,933,670 Acres; Land now ceded to *Great-Britain* by the late Treaty, is 1,355,419,840 Acres in the Neutral Islands and Continent; all the Land in *Great-Britain* and *Ireland* being to our present Possessions in *America* nearly as 1 to 24.

At the Conclusion of the late War, tho' *Great-Britain* was in Possession of *Canada* and *Cape-Breton*, and the Islands of *Guadaloupe*, *Marygalante*, and *Martinico*, yet the *French* still possessed all *Louisiana* and *St. Domingo*,
Desiderata

Desiderata and the *Grenades*, and had taken *Newfoundland*.—If the *English* had kept all their Conquests, it would not thereby have been possible to have excluded the *French* from a full Share in the *American Trade*; for *St. Domingo* and the *Grenades* would have received and employed all the Inhabitants of the other Islands that were used to the Sugar Trade, &c. And *Louisiana* is capable of producing as much Rice, Tobacco, Indigo, and all other Articles of our Colony Trade, as would supply the *European Markets*, and give the *French* equal Advantage with us. And if the *English* had kept the Sugar Islands, it must necessarily have put the *French* upon improving *Louisiana*, which (as it would have been their only Colony that wanted Supply from *France*) must have increased apace; and, by it's Situation, have been a constant and dangerous Nuisance to *Georgia*, the two *Carolinās*, *Virginia*, *Maryland*, and *Pennsylvania*, to each of which it is contiguous. The Safety of these Colonies therefore could only be insured by preventing the Settlement of the *French* in *Louisiana*; and this could only be done by exchanging it for some other Place; but whether that Exchange has been purchased at too dear a Rate, may justly be doubted.—The Exchange was chiefly the three Sugar Islands above-mentioned; and it cannot be pretended that the *English* wanted Lands proper for Sugar, since, in the Island of *Jamaica* only, there are near four Millions of Acres of uncultivated Land, (a Third of which is supposed capable of producing Sugar) which is equal, if not superior, to all the Sugar Islands given up; and it would certainly be more for the Interest of *Great-Britain* to improve that to the utmost, and to have one strong, well-peopled Island, capable of repelling any sudden Invasion that might be attempted, than to have a Number of small Settlements at a Distance from each other, each of which must depend on it's Mother Country for it's Defence, and may be invaded and taken before it's Danger is known here, or ere a sufficient Defence can be sent.

But these Islands were not given up solely as an Exchange for *Louisiana* and the Safety of our Colonies; they were the Purchase of a general Peace, and thereby of all the Advantages that either *Great-Britain*, her Colonies or Allies, received from it. It was these that recovered *Portugal* from the *Spaniards*, *Hesse*, &c. from the *French*, and all *Germany* from Misery and Distress. It was this that purchased *Granada* and *Newfoundland*, as well as *Louisiana*, to *Great-Britain*, and engaged the *French* to give up all their Pretensions to *Canada* and it's Dependencies: And whether any Advantages equal to these could have been obtained by retaining these Sugar Islands, the Censurers of the late Peace must shew.—Thus far my worthy Friend.

A short Syllabus of the Air, Weather, Seasons, Diseases, and Food, in some Years especially, should always be regarded, or Observations on Bills of Mortality will be a meer Narrative of Effects without their Causes. We shall therefore begin this Syllabus somewhat prior to the keeping Bills of Mortality, *viz.* from 1470 to 1762; but more particularly from 1748 to 1766, since Dr. *Huxham's* History of Epidemics.

1468, 69, and 70, all rainy, southerly, sultry, wet, sickly, and mortal Years.

1471, a severe frosty, stormy Winter.

1472, 3, and 4, all great Heat and Drought, Woods took Fire, most Rivers dried.

1475 and 6, very rainy, and great Floods.

1477, great Heat and Distemperature of the Air, great Plague in *England*.

1478 and 9, great and sultry Heat. In *September* and *October*, 79, great Plague in *London*.

1480 to 85, great Rains and Moisture. In 85 most shocking Floods, great Losses of People and Cattle.

1486, wet, great Plenty. *Sudor Anglicus* first in *England*. To

1490, Drought, and generally healthy.

1491, a Comet, great Solar Eclipse, and Death of Cattle.

1492 and 3, rainy, and great Dearth. In 93 Wheat 6s. a Bushel.

1494 and 5, temperate, seasonable, and great Plenty.

1496, 7, and 8, great Drought, Hay very dear.

1499 and 1500, very rainy; a Comet; died of the Plague in *London*, 30,000.

1501, a frosty Winter, very hot Summer, fatal to Cattle.

1502, 3, and 4, great Drought and Heat. In 1504 a Plague in *Augsburgh* and *England*.

1505, all southerly, sultry, moist Constitution; a general spotted Fever; Plague in *Augsburgh* and near it. Before this tame Fowls left their Nests, Eggs and Young, fled to the Woods, and became wild. This Fever began first in *Italy*, then over-run all *Europe*.

1506, much and great Thunder and Lightning, heavy Rains, many Meteors and Coruscations; the above Fever; the sweating Sickness again.

1509, Plague, and a shocking Earthquake in *Turky*; Plague in *England*.

1510, moist and southerly, a general Catarrh from *Malta* spread over all *Europe*.

1511, a great Plague in and about *Verona*, *Augsburgh*, &c.

1512 and 13, cold and rainy Years, Plague and Famine in *England*, *Augsburgh*, &c.

1514, the Plague in *Tournay* killed 140,000. It began in *Triula*, and overspread the Continent; it was also most fatal to Sheep and Swine.

1515 and 16, still moist, rainy, and wet; a fatal Catarrh in *Holland*; great Floods and Losses in *Germany*.

1517, a drougthy frosty Winter, a burning-hot Summer, an early, plentiful, good Harvest; Wheat fell from 10s. to 10d. a Bushel. A third *English* sweating Sickness, great Murrain among the Cattle in *Holland*; a pestilential sore Throat, which killed in few Hours; it came in three Days with a stinking Mist, and the Infection was over in ten Days.

1518 and 19, good, healthy, plentiful Years in *England*.

1520, rainy, terrible Tempests of Wind and Weather.

1521 was first a great Drought and Mortality in *England*; then most profound Rains, Floods, and Inundations; 72 Villages and 100,000 People drowned; very much Cattle lost; Plague in *Augsburgh*.

1522, the like Seasons and Diseases as in 1505.

1523, long and heavy Rains, Floods, and Winds; a severe Frost, fatal to much People.

1524 and 5, rainy, and wormy Plague in *Milan*, with great Balls and Knots of Worms voided, and many retained. A fatal pestilential Hectic prevailed in *Vienna* and *Lyons*.

1526, so great a Plague in *London*, that the Terms were adjourned.

1527, from *November* 1 to *February* 1, continual Rains and great Floods; then, to *April* 1, great Drought; to *June* after, daily Rains; hence a Dearth.

1528, Winter and Spring southerly and rainy, great Floods, Fogs, Dark-ness, &c. pestilential spotted Fevers, as in 1505.

1529, 30, and 31, all southerly and rainy, bloody Fluxes, and Epidemics. In 1530, *November* 4 and 5, a Hurricane, then a high Tide, which drowned *Essex*, *Kent*, &c.

1532 and 33, dry, seasonable, healthy, and plentiful.

1534, the Plague raged in *Languedoc* and *Dauphinée*.

1535, 36, and to *December* 37, southerly and rainy, Plague in and about *Augsburgh*, acute and slow Fevers prevailed. *December*, and *January* of 37, a most severe Frost.

1538, 39, and 40, great Drought and Heat; Agues and Fluxes were rife.

1541 and 42, wet, rainy Years; Plague in *Poland*, and *Breslaw*.

1543 was excessive rainy; great Death of Cattle; a hard frosty Winter; Pleurifies prevailed.

1544 and 45, both were cold and dry. The *Troupe gallant* spread over all *France* and *England*.

1546 and 47 were unequal, southerly, and tempestuous, and a pestilential delirious Fever and Diarrhœas. In 43 the Plague was so in *London*, that the Terms were adjourned to Winter. The last rainy Summer caused a great Dearth of Cattle; the next Winter had a long hard Frost, followed by fatal inflammatory Diseases in the Spring. In 45, besides the universal Catarrh, verminous Fevers raged, and killed many young, strong People. A sore Plague in *London*. All *Europe* was sore afflicted with a pestilential Peripneumony, with Blood-spitting and Difficulty of breathing. This Distemper swept from East to West thro' all Countries in 48, which had many great fiery Chasms.

1549 was most rainy. Harvest was neglected from Civil Wars; Grain and Grass rotted abroad; hence a great Dearth.

1550, a great Famine; Wheat rose from 10 *d.* a Bushel to 16 *s.* A Comet five Days in *March*; another, or the same, all Winter in *Scotland*, which was dry there; but a floody, rainy, tempestuous Summer, with many fiery Meteors.

1551, a wet Summer, a frosty Winter, a general Catarrh, a fatal contagious Fever in *Germany*.

1552 was a parching Drought here, but rainy abroad; a pestilential wormy Fever in *Venice* and *Ancona*; a Plague in *Germany* and *Misneum*, the Sick died sweating Blood. The like happened again in 54.

1553, from *August* to *November* a pestilential Fever prevailed abroad, with many Worms. The Plague was brought into *Breslaw* by a Pigeon in a Linen Cloth taken up.

1554, 55, and 56, all three very wet, rainy, floody Years, producing Scarcity and Dearth.

1556 *, 57, and 58. In 57 great Dearth from the late rainy Years, but surprizing Plenty after Harvest; yet *September* and *October* were rainy. The Plague was in *Delf*. In *October* some thick stinking Clouds covered *Alcmaria*, with which came a sweeping epidemic malignant Fever, with a Catarrh, sore Throat and Breast. *July* and *August* were dry and warm. In the End of *September* and *October* came a piercing, strong, North Wind, followed by a Run of Defluctions, Coughs, Fevers, Pain in the Side, Asthma, many fatal Peripneumonies, and pestilential Quinsies.

K 2

1558,

* This Summer Wheat was sold for four Marks per Quarter; Malt, 2 *l.* 4 *s.* Rye and Beans, 2 *l.* and Pease for 2 *l.* 6 *s.* per Quarter. After Harvest Wheat sold for 4 *s.* per Quarter, Malt for 4 *s.* 8 *d.* and Rye for 4 *d.* a Bushel.

1558, a cold northerly Winter, a rainy hot Spring, an excessive hot Summer, great Dearth; reigning Quartans, (fatal to the Aged) Fluxes, and Semitertians. In 56, 57, and 58 began a continued Endemic in *England*, burning-hot Fevers, Agues, and Remittents. During all this while, and ever since 42, and except till about 1633, the Plague was scarce ever out of *Breslaw*, and therein, only, swept off 40,100. Each Time it raged more, and carried off at least one Fifth of the Inhabitants.

In 1658 and 85, it killed each Year a fourth Part; but in 1633 it slew a compleat Half of the whole Inhabitants; after which the City increased as before the Plague; but, tho' all *Silesia* and the Neighbourhood groaned under a most depopulating Plague from 1708 to 14, yet *Breslaw* was quite free from it; tho' before, in 181 Years, above 53,196 more died than were born there.—Famine in *Spain*, Plague in *Murica*; it spread thence into *Valencia*, *Burgos*, and all *Spain*, where, for some Years, incredible Multitudes died of it. The Winter before was very cold, northerly, and rainy.

Between 1505 and 1636 the Plague raged 23 Times in *Augsburgh*, (but only once after) viz. 1504, 5, 11, 12, 21, 35, 36, 47, 63, 64, 71, 72, 85, 86, 91, 92, 1607, 27, 28, 32, 33, 34, 35, and 1704. In these 23 Plague Years were born 38,728; buried, 92,376. In 1704 were born 818; buried, 3113.—*Augsburgh* Register begins with 1500; and from that to 1710, (exclusive of 1704 and 5, Plague Years) in eight Years, were born 14,980; buried, 14,462; the two Years Plague having taken off the Aged, Weak, Sickly, and Infirm. From 1713 to 21, other eight Years, were born 7217; died, 7442; not half so populous now as formerly. In this City, in 220 Years, were born 304,638; buried, 342,230.

1559 and 60, both good, seasonable, healthy, and plentiful Years.

1561, a dear Year in *England*, as in 55, 56, and 57, from excessive Rains in all.

1562, a rainy Year; Plague in *London* from *Newhaven*. A fatal Year to Cattle. From *December* 20 to *January* 3, a most severe Frost; then a sudden destructive Thaw and great Floods. The Plague of 62 killed in *London* 20,136; and in 1509 and 63 it destroyed many there. In *Germany*, in a few Years, 500,000 died of it.

1563, a most rainy, wet Constitution, falling Stars all over, and in Winter, fiery Meteors and pestilential Quinfies. *January* 9, a Hurricane and Thunder. An Earthquake at *Leicester* and *Lincoln*, *July* 8; and, from the 1st to the 12th of *December*, incessant Thunder. The Plague spread greatly in *England*. In *July*, Coughs, Pleurifies, and Peripneumonies; the Lungs of the Sick were loaded with putrid, half-coagulated Blood. A most unseasonable Year; great and much Winter Thunder and Lightning;

ning; the Plague in many Parts of this Nation, and over-run most of *Europe*.

1564, great Rains and Floods from *September* to *December*. On *October* 7 a remarkable fiery *Aurora Borealis*. From *December* 1 to *January* 3, the hardest Frost ever remembered. A Thaw in one Night, and shocking Flood with it. In *Nimeguen* a fatal Cholera-morbus. This and some Years before it having been excessive rainy, on the *Lower Rhine* it caused great Sicknefs and Dearth, Abortions, Worms, Small-Pox, Quinsies, (and in several Places the Plague, as in *Ægrana*) Arthritics, and Convulsions, all very fatal abroad from the long universal Rains and constant Moisture. After the Frost, seven Days Air, loaded with thick Vapours, occasioned inflammatory Diseases; mostly nothous after so rainy a Summer, and nightly northern Streamers. Bleeding in all Diseases was fatal, as it was also very much so to the Cattle.

1565, *July* 16, a Tempest of Thunder, Lightning, and Hail. *December* 24, a Hurricane drove back the *Thames* in a most destructive Land Flood. Great Death in *France* by pestilential Diseases, wherein Bleeding (as before) was fatal. In *Italy*, an epidemic flow Fever. The Plague in *Freyberg* and *Zurick*.

1566, all the last Year, Winter, and this Spring had great and almost continual Rains and frightful Floods; a clear, drouhty Summer; not a Drop of Rain in Harvest. Now the *Hungarian* Fever raged all over *Europe*; the Plague raged in *Jena*, *Thuringia*, and *Lyons*. It appears not that *Dresden* and *Leipsic* were great Sufferers by the Plague; tho' the latter, in the 17th Century, buried 17,500 more than their Births, which were 50,436; buried, 67,910. The former, in 108 Years, had Births, 94,015; Burials, 109,982. In the same Year were born, in all, in *Magdeburgh*, 34,950; buried, 40,532. In *Eulenburg*, born, 11,116; buried, 12,069. In *Freyberg*, from 1617 to 1717, were born 28,851; buried, 30,295. In *Dantzick*, born, 215,814; buried, 284,120.

1567, a most severe Winter; Hay very dear after last Year's Drought; in Summer an excessive Drought, and great Death of Cattle. *March* 18, a Hurricane did great Damage to *England* and *Holland*.

1568 was seasonably healthy in the Country in general. The Plague in *London*; a fatal Fever in *Paris*; in *Italy*, a hot and moist Air. The Sea (as before in 28) broke in, and drowned Part of *Holland* and most of *Frizeland*. *October* 5, a Hurricane, and the Sea broke in and drowned all there, both far and near. A contagious spotted Fever in *Spain*.

1569, in *Italy* a great Famine, from long Rains and Mildew. Next Year came a putrid spotted Fever, which over-run all *Europe*, and turned

to the Plague in *Spain*, then the same Fever again. This Fever, or Plague, made terrible Havock of People in many Places. All from 68 to 74 was a most shocking Constitution; a southerly Wind, great and long Rains, Dearth and Famine, an unhealthy, mortal Time, like a Plague. In 71, a southerly, rainy, watery, cloudy Harvest; but a much wetter Winter, constant Rains and Snow, severe Cold, North and East Winds (1570, a most rainy Summer in *Italy*; a pestilential Disease in *Trent*, *Venice*, and *Padua*; *Platina* says the Plague afflicted all *Italy*. These Places suffered grievously by pestilential Diseases, viz. *Ægrana*, in 64; *Dresden*, in 66; *Torgau*, in 82; *Wirtemberg*, in 1598, 1609, 10, 26, and 28; *Breslaw*, in 1607; *Francfort*, in 1611; *Berlin*, in 1624; *Fubingen*, in 1636). Winter was still worse to *February* 15, 1572; then intense Cold, with continual North Winds, and thick dark Air to the Equinox, Frost, deep Snow, icy Rains, a late cold Spring, Summer and Harvest very moist and watery, a South Wind, and many fiery Meteors. The Plague was all over *Poland*, a malignant Fever in *Bazil*, a frightful Time in *France* and *Germany*. Then came the Winter 72, with such continual great Rains as far exceeded all past since the Beginning of this Constitution in 68. Thus it continued worse and worse all 73, to *January* 74. Scarcity and Dearth in *England*, chiefly from Corn-Hoarders for Exportation. In *August* began, and reigned two Years, *Galen's Hæmitriten*. A good Spring, bad Summer, a southerly rainy Harvest, Poverty, Fear, Grief, and bad unwholesome Food at home and abroad. The last two Years turned to the Plague on the Continent, Bloody Fluxes, Measles, Worms, then malignant Fevers and Epilepsy. In 72 was a far brighter Comet than ordinary. From *November* to *March* 74, a hard Frost, deep Snow, with freezing icy Rains, Wind North and East till *Whitsunday*. Plague in *Moravia*.

1574 brought not Scarcity, yet a Dearth still. A small Plague in *London*. A Spring like Summer; a Summer like a bad Harvest; a Harvest rainy and southerly, like a bad Winter; no Wind nor Thunder; many Meteors; Plague after Fevers.

1575, a good, rich, seasonable, plentiful Year for all Necessaries; yet the Plague raged in *Milan*, *Padua*, &c. It was brought from *Asia* to *Venice* in rich fine Cloths.

1576, a rainy Summer. The Plague in *Helvetia*.

1578, *Oxford* black Affizes. Plague still in *Venice*, *Padua*, and *Milan*.

1579, from *February* 4 to 8, Wind North, it snowed incessantly, and in great deep Drifts; much People and Cattle were lost. To the 10th, a Frost, followed by great Rains, and Floods long after, which did great Mischief. *April* 24, another deep Snow. *September* and *November* brought

brought heavy Rains, great Floods, high Winds, vast Losses in Corn, Cattle, and Houses. *April* 6, this Year, and *May* 12, 80, great Earthquakes in *England*.

1580, *October* 10 to *January*, a Comet in the South, bushing towards the East. From a rainy, wet, southerly Constitution for some last Years in *Italy*, followed in *August* and *September* by a cold North Wind for six Weeks, came a fatal, malignant, epidemic Catarrh, followed by another in *November*. They raged all over *Europe* at least, and were the same with that of 1510, 91, 97, and 1610. Besides all *Europe* groaned under a pestilential Peripneumony from the late wet southerly Constitution. A Bloody Flux prevailed greatly in *Germany*. The Plague, as usual, broke out in *Grand Cairo*, and carried off 500,000 People. Of the Catarrh and Peripneumony died 4000. In *Lubec*, 8000; in *Hamburgh*, 3000; in *Brunswick*, *Bremen*, and *Lunenburgh* died incredible Numbers. In *France*, a fatal Epidemic, which soon reached and overspread all *Italy*; probably the Catarrh, &c. above.

1581, in *April*, an Earthquake near *York*; next Night the like in *Kent*; another in *Peru*. In *November*, a fore Plague of strange Mice in *Kent*, destroyed by Flights of strange Owls.

1582, in *Norfolk* a Tempest of Thunder, Lightning, Rain, and large Hail did great Mischief both by Land and Sea. A Comet in *May*. The Plague was in *Zabern*; but in *Alsace* and other Places it was a putrid Fever.

1583, an excessive hot and dry Summer; Dyssenteries common.

1584, a Three-acre Close in *Dorsetshire* shifted Places in one Night. From 80 to 85, plentiful and tolerably healthy Seasons, some Drought and great Heat.

1585 and 86, both very rainy Years. The latter End of Winter and Spring of 85 were rainy, the Summer wet and southerly, malignant (nothous) Spring Pleurifies and Peripneumonies were frequent.

1586, great Rains and Hurricanes caused a Dearth here till the Harvest of 87. *August* 4, a Close in *Kent* shifted Situation. A Dearth in *England*. The Plague in *Hungary*, *Austria*, and *Turky*, followed by Famine.

1587, an excessive cold and dry Spring; Summer and Harvest very late, but great Plenty. *September* was severely cold, white Frosts, boisterous North Winds, Snow and Sleet. Plague and Famine in the *Netherlands*. *Holland* was almost under Water. A great Famine in *Antwerp*, *Brussels*, and *Bruges*.

1588 and 89, the latter End of the first, and all the latter, was rainy. In 88 the *Spanish Armada* was defeated. In 89, a severe frosty Winter. The *Hungarian* Fever from *Portugal* overspread all *England*.

1590, all a parching Drought, little Grass, Hay, Corn, or Wine. Hay was burnt in the Fields abroad. In *September*, an Earthquake in *Germany*.

This Year and next, a sore Plague in *Spain* and *Lavonia*, and a Famine in *Italy*. At *Trent*, a malignant spotted Fever, which reached *Florence* in 92. During this Dearth in *Italy*, a malignant spotted Fever in *Pisaurum*; a great Dearth, Heat, and Death of Cattle in *England*. This Year and next, a great Plague in *London*. Spotted Fever in *Florence* and *Italy* from great Rains and Famine.

1593, still a great Drought in *England*, and some Plague; Earthquakes in *Persia*.

1595, 96, (this Year Wheat sold for 10 s. a Bushel, Rye 8 s. and Barley for 2 l. 10 s. a Quarter) and 97, all terrible long heavy Rains and Floods; a three Years great Dearth in *England* and *Hungary*. An unparalleled contagious, convulsive, epidemic Fever in *Cologne* and *Westphalia*; a sore Famine in *Italy* and *Germany*; then raged, like a Plague, the above convulsive Fever. The Plague in *Juliers* and *Servesta*; in other Places it was a malignant spotted Fever in Adults, but with Worms in Children.

1589, the Plague in *London*, *Litchfield*, and *Leicester*; all the three last Years a Famine in *Turky*; an excessive Heat and Drought in *England*, the Air swarmed with Insects, many spotted Tertians and Quotidians in Summer, and many inflammatory Diseases. In Harvest the Plague and Synochus Fever, with Worms; an exulcerating Looseness. Tho' the Drought of 90 was great in *Germany*, yet *Italy* had continual Rains and great Floods. By insufferable Heat, Dearth, and Famine, an Epidemic, which, from *August* 90 to *July* 91, destroyed, in *Rome* only, 60,000, viz. a Fever with continual Frenzy, Flux, and Cough. The Famine forced many to feed on unwholesome and base Food; hence a malignant, contagious, convulsive, epidemic Fever, many Worm-Fevers, and a general Catarrh. In 1587 were living within the Walls of *Bononia* 72,000 People; in the Suburbs, 195,000; within the Town's Jurisdiction, 170,009; in all, 261,500. In 1598 (the Year we are upon) the Famine had left only 207,796; diminished, 53,704. In 1630 died, within the Town, of the Plague, 23,691; in the Country, about 18,000; in the whole died, 41,691. In 1557 there were in the Town, &c. Males, 26,991; Females, 30,432; both, 57,423. In 1587 were 91,500; in 57, 38,477. In 1587 were 261,500; in 1657, at 70 Years Distance, in the whole Country of *Bononia*, were 225,234 Souls; diminished (instead of Increase) 36,266; for in the Plague and Famine died 95,395. The like depopulating Calamities happened at the same Time in other Places, chiefly from the Plague roaming about.

1599 was a cold, dry Spring; at *Whitsunday* great Rains and terrible Floods; a hot and dry *June* and *July*. The Plague, in *Spain* and *Lisbon*, killed 70,000 People. A great Plague on Cattle in *Italy*.

1600, a very severe Winter last Year; *April* 14th, a deep Snow; to *June* cold and dry; hence Scarcity and Dearth. The Plague now raged in most Countries in *Europe*, and almost depopulated *Spain*. In *Florence* and *Norica*, a terrible Earthquake. A pestilential, contagious Cholic prevailed much at the same Time.

1601, the Air was loaded with Vapours, at the Sun Rising especially, and Trees were loaded with black, rotten Fruit. Winter and Spring were rainy; *June*, *July*, and *August*, excessive hot and sultry, wet, moist, and southerly. In *Portugal* prevailed a Worm-Fever. A Bloody Flux in *Switzerland*. In *March* and *September*, in *Italy*, Tertians and Earthquakes. This Year, in *Milan*, were alive, 310,000; but, in 1658, only 100,176. In *Genoa*, formerly, were 200,000, and after only 55,000; but immediately before this they were 120,000. *Mantua*, before the Plague, had 40,000, and after it only 13,000.

1602, a cold, wet Spring and Summer, a dry northerly Harvest; in Winter the general Catarrh of 1597. An acute Fever in some Parts of *Italy*. The Plague in *Chester*.

1603, a moist, southerly Year. A sore Plague in *London*, whereof died 38,244: The Soldiers brought it from *Ostend* and the *Low Countries*: Some Remains of it continued in the City till 1611, and killed 9000 more, and was spread into divers Parts of the Country. The Plague was in *Chester* in 1517 and 74, and 1601, 3, 5, 8, and 10. In *Austria*, Palsies succeeded by Cholics.

1604, a wet Constitution: Plague in *Spain*, and Country Places in *England*.

1605, very wet and southerly.

1606, a very rainy Year, a wet Summer, Plague in *London*.

1607, a westerly Wind drove the Sea up the *Severn*, which did much Hurt: There were six Weeks hard Frost in Winter. In *Saxony*, cold Disorders of the Stomach: A fatal Small-Pox in *Italy*; Plague in *Wittenberg*, &c.

1608, a very wet unequal Year here. Hæmitritian, tertian, ardent Fevers very frequent. In *Italy*, a warm, moist Spring inconstant, Harvest, Chicken-Pox with white Hives, and no Fever. Bloody Fluxes in *Germany*.

1609, from *December* to *April* a most severe hard Frost. The same in 1709 and 14; the *Thames* like a solid Highway, preceded by a moist, rainy Summer.

1610, an excessive hot, dry Summer. The Soldiers returning from *Alsace* spread the *Hungarian* Fever. A general Catarrh; terrible Meteors; in *Hungary*, Tertians.

1611, a hot and dry Summer. Plague in *Giesen* and *Francfort*. In five Months died of it, in *Constantinople*, above 200,000; 12 or 1500 died daily.

1612, a great Drought. A Comet in *November*. A sore malignant Fever in *England*. Pleuritic Peripneumony in *Senogalia*. A rainy Summer and Winter in *Montserrat*, then two Months Snow. A dry, cold *January*, *February*, and *March*. The above inflammatory Diseases and pulmonary Defluxions. All *October*, *November*, and *December*, great Hurricanes, Storms, and Tempests, both by Sea and Land.

1613, all Spring and Summer, to *July* 25, constant Rains and great Floods; then great Drought, and an open Winter. The Plague in *Louisiana*, from the Caterpillars of 1611 and 12, and Flesh Flies in 13. A malignant Epidemic after the Siege of *Montpellier*.

1614, in *February*, deep Snow in great Drifts; high Winds, and great Losses. A good and plentiful Summer. A most pestilential, depopulating Small-Pox prevailed generally. Sleepy continual Fevers in *Ulm*.

1615, a wet Summer, and a frosty, healthy Winter. Again, 1619, a most scorching, hot, droughty Year. Quartans, Epidemics, not fatal; *Germany* chiefly felt their Severity. 1616, 17, and 18, four Comets in one Year. An Earthquake in *Rhætia*; terrible Meteors, great Rains and Floods in *Turky*. *Sweden*, for the first Time, sore afflicted with the Scurvy.

1619. This Year, and in 25, 29, 37, and 54, the Plague raged in *Denmark*; in *Wittenberg*, in 26; in *Calabria* and *Eslinga*, in 27; in *France* and *Italy*, in 30; in *Ratisbon*, in 34; in *Ulm* and *Eslingain*, in 35; in *Altmar*, in 1563, 76, 82, 93, 1609, and 1639.

1620, a wonderful Meteor in *Medina*. In *September* the *Hungarian* Fever began in *Worms*, in both Armies, and by disbanding the Soldiers it was spread over all *Germany*. Plague in *Lisbon*.

1621, 22, and 23, all wet, rainy, scarce, dear Years. In 21 the Small-Pox were epidemic in all Ages. In 22, the *Hungarian* Fever in *Hesse*; an Earthquake and great Mortality in *Italy*. In 22 and 23, an epidemic Fever in *France* with Paroteds, and in *England* with great Deaths; and in 23 and 24 little short of the Plague, in which it ended in *London* in 25. In 26 it turned to the spotted Fever again, which almost laid *Montpellier* waste.

1624 and 25, wet, moist, and rainy Years. In 25 died in *London*, of the Plague, 63,001. It raged also in *Berlin* and *Cologne*. In 23, in *France*; in 26, in *Tubingen*; and in 25 was a hard Frost.

1626 and 27, the same excessive Heat as in 16 and 17. In 26, a cold *November* and mild *December*. In 27 the Plague was in *Wittenberg*, and a Flood in *Apulia* drowned 16,000 People. The Plague in *Argentine*. An Earthquake now in *England*, and another in 34.

1628, the Plague in *Augsburgh*, from Famine. Each Time the Plague raged in *Denmark* it was imported, and encouraged by bad Air and Seasons. In 26 the former Fever and Bloody Flux still prevailed.

1629, the Plague prevailed over all *France*. In *Apulia* 17,000 were lost by an Earthquake. In *Ceneta*, a fatal malignant Fever, from Famine and bad Food. In 30 and 31, a great Drought and scorching Heat; hence a Dearth and severe Bloody Flux. The Plague laid *Biberacum* and *Ulm* waste. From 1622 to 64 it was ten Times in *Amsterdam*, viz. in 1622, 23, 24, 25, 26, 27, 28, 29, 36, 55, and 64, and swept off 107,364, besides what died of other Diseases. It was seven Times in *Altmar* in 70 Years, besides the Times before in 1539 to 41, 1550 to 53, and 1660. In 1619 it killed in *Grand Cairo*, in ten Weeks only, 73,500, without any visible Diminution of the Inhabitants; but here they have it almost yearly. In 1625 died at *Leyden*, 9597; and in 1635 died there, in five Months, 14,381. At *Harlem*, in four Months, died 5723. In *Prague* died 20,000 Christians and 10,000 *Jews*. In 1653 died in *Dantzick*, in one Week, 620. In 1656, it carried off at *Naples*, in three Months, 300,000, and greatly depopulated *Rome*. In 1657 died in *Genoa*, 70,000. In 1618 it was very fatal to *Bergen* in *Norway*. In 1632 and 33, and to the Winter of 34, very rainy, wet, and moist Seasons, which ended in a hard Frost. In *Germany*, malignant Fevers, with Spots or a Looseness, or Inflammations of the Jaws, or St. *Anthony's* Fire. In 33, a Comet over *Barcelona*; in 34, an Earthquake in *London*; in 35, a Camp-Fever was carried and spread over all *Germany*. The Plague in *Ratisbon*.

1635, a warm, moist Spring; the Summer this Year, and those of 36, 37, and 38, excessive hot and drouthy. Tertians over all *England*; the Plague in *Leyden* and *Eslinga*; Small-Pox and Measles fatal in *Nimeguen*, and a Bloody Flux there; all ended in the Plague; the same in *Mentz*. The Winter in 36, mild, not hot; a hot, drouthy Summer; all a South or South-West Wind, no Rain, and the Plague in *London*. The Years 37 and 38 were both excessive hot and dry. The Plague still roamed about, and a Flood in *Holstein* drowned a great many.

1639, 40, 41, and 42, a wet, rainy Constitution. In *October*, 40, four
L 2 Days

Days hard Frost; many fatal Pleurifies in *February* after. 41 and 42 excessive rainy; 43, a constant rainy Spring, and a most excessive hot Summer. Malignant spotted Fevers prevailed every where, especially among the *Swedish* and *Danish* Garrisons, and the Army before *Reading*, and spread over all *Britain*. In 44 it reached the North of *England*, and was very fatal.

1645 and Part of 46, extremely hot and dry. The same Fever still in *Denmark*. The *English* Fever the same with that of 1555 and 80. In 45, an epidemic, malignant Bloody Flux. The rest of 45, 46, 47, and 48, were uniformly unequal, southerly, windy, cold, rainy, and floody. In 48, a spurious, ardent Fever common in *Italy*; many Meteors in *England*; the Plague in *Spain*. In *Holland* and *Frizeland* the Sea drowned 11,000 People. The Plague in *London* in 45.

1649 was still moist and warm; bilious Fevers in *Germany*; Dearth in the North of *England*; Famine in *Scotland*; Plague in *Ireland* and *Shropshire*; an Earthquake in *England*; continual Fevers various.

1650, hot and dry in *Italy*; but great Rains and severe Colds here, and many Meteors. An Earthquake in the North of *England*. Part of 50, all 51, 52, 53, 54, and to the Spring of 56, a great Drought. In 50 we had an excessive hot Summer and Harvest; then great Rains, followed by a most rigorous Cold; and that by a sore epidemic Catarrh and Defluxions. In 51, a Quinsy; great Floods in *France* and *Holland*. In 52, Wheat sold for 6s. a Load, Rye for 4s. and Barley for 10s. a Quarter. A putrid Synochus in *Aquitania*; Tertians in *Denmark*; Agues in *England* till 61. In 55, the Plague in *Holland*; in 56, in *Naples*, *Rome*, *Candia*, *Italy*, *Genoa*, and *Bonevento*. The *Hungarian* Fever in *Poland*.

1656, the Drought continued till this Spring; the Summer was hot, rainy, and southerly. There were prodigious Rains in *France*; much People and Cattle drowned, and many Mills and Bridges carried down by Floods. Small-Pox; spotted *Hungarian* Fever; the Plague in *Rome*, which continued two Years; great Floods and an Earthquake there. The Spring and Summer of 57 intolerably hot; the latter End of Harvest rainy, the Winter frosty; fatal Tertians over all *England*.

1658, to last *Lammas* very hot. This Winter, Spring, Summer, and *Lammas* as cold. Then, from *December* 1 to *March* 11, a hard Frost, deep Snow, and North Wind. Cold to *June* 1. In *April*, a most universal Catarrh. From *August* 1, an excessive Heat; then a nervous spotted Fever. Tertians. The like Fever, as above, prevailed in *Modena* in 91. 59, a very hot Summer. Tertians still reign.

1660, a stormy, tempestuous Winter, with great Thunder and Lightning,

ning, and Loffes. Bloody Flux and Small-Pox abroad. An Earthquake in *France*, and one in *Leicestershire*. A River dried in *Derbyshire*. A hot Summer.

1661 and 2, both stormy and unequal; Tempests and Meteors; *Sydenham's* Depuratory Fever. Tertians and continual Fevers still rife.

1663, a most deluging, rainy Autumn. All Brutes were full of Worms from the late Rains. A malignant epidemic Fever; in *Venice* 60,000 died of it.

1664 and 5; 64, a moist, seasonable, healthy, good Year; great Plenty of good, wholesome Food. From *December* to *March*, a severe Frost. Summer, very good and rich; all Fruits, Grain, &c. most wholesome. Many Spring Inflammations. The Plague brought from *Turky* to *Holland*, thence to *London*, in Bales of Cotton, where it destroyed 100,000. Epidemic continual pestilential Fevers. The *Venetian* Territories groaned under a fatal Epidemic.

1666, a very drougthy Year. *October* 13, a destructive Tempest of Hail and Whirlwind. *January* 20, an Earthquake in *Oxfordshire*. From *January* 28 to *March* 8, a Comet; in *April* and *May*, another. A general Tempest of Thunder, Lightning, and Hail. A very hot Summer.

1667, the Weather very changeable, Wind North, Air cold, and wet. In *July* and *August*, seven Weeks, a great Heat. An epidemic Fever in *Holland*. Small-Pox and variolous Fever in *London*.

1668, a wet, unequal Year. A great Earthquake in *Europe* and *Asia*; a Comet in *Italy* and *Portugal*; a common Looseness and variolous Fever here. This is the last Year we find the Plague mentioned in the *London* Bills.

1669, all to *July* extremely cold, a North Wind; then intolerably hot to *November*. Wind West. A most severe frosty Winter. From *August* to *January*, a fatal epidemic Tertian; the like in 78. The *Morbus-Cholera* to 72. Bloody Flux and Measles.

1670, a severe Winter to the End of *January*; when a great Flood and hard Frost next Night did inexpressible Mischief.

1671, an unequal, but not a bad Winter.

1672, a very rainy Summer and Harvest. *December* 8th, a deep Snow; 9th, great Rains; 10th, Fits of Cold and Heat, with icy Rain; then long, unseasonable Heat. A Comet in *March* and *April*. *September* 2, terrible Thunder and Lightning; many slow Fevers.

1673, a cold, unseasonable, bad Year; a late lean Harvest; a great Dearth and a spotted Fever in *Denmark*.

1674,

1764, *February* 5, strange Meteors; then a Frost to *March* 25; eleven Days Snow together. This Year the *Hungarian* Fever in *Germany*.

1675, a cold, northerly Spring, a very rainy Summer, an unequal Harvest, a mild Winter without Rain or Snow. Agues and Catarrhs. A Worm-Fever abroad.

1676, in *March* and *April*, many Northern Lights; a very cold Summer. *September* 20, a fiery Meteor. Small-Pox and Measles in *Genoa*.

1677, a hot Summer and cold Winter. A Comet in *April* and *May*. Bloody Flux epidemic. In *Denmark*, a Catarrh.

1678. Last two Years being North and North-East, seldom North-West, chiefly North, Spring, Summer, and Harvest droughty, hot, and clear; the Scurvy was epidemic till *August*. A Fever in the Head chiefly. From *October* to next *July* came the same Tertian as in 68, and a Catarrh.

1679. *October* one continual Rain; hence a Catarrh. Tertians prevailed all the Spring and Harvest.

1680, a long, severe Frost; an excessive hot Summer; Agues, continual Fevers, and Bloody Flux. The Plague in *Misnia*.

1681, an extraordinary dry, hot Summer. Agues and Small-Pox in *London*.

1682. *May* 3, an Earthquake in *France*. *July* 16, *Sicily* almost destroyed by a Tempest of Rain. A fatal spotted nervous Fever in *Dublin*. A grievous Murrain among Cattle, both here and abroad. Two Comets.

1683, a rainy Summer, especially from the 9th to the 16th of *September*, but warm. An Earthquake in *Oxfordshire*. The *Hungarian* Fever in *Leyden*. The coldest Winter and longest hoar Frost ever remembered.

1684, a severe, cold, frosty Winter, like the last, and a hot Summer. An universal Bloody Flux; a Catarrh; a simple Fever. Remarkable Comets in *September* 81, and *July* and *August* 82.

1685, a moist, warm Year, and mild Winter, no Frost nor Snow. Locusts in *Languedoc*.

1686, a severe Winter, droughty Spring, and an intolerably hot and dry Summer. Bloody Fluxes. *May* 22 and *July* 29, remarkable Northern Lights.

1687, a very rainy Year; great Floods and Tempests in Summer; Plenty of crude, watery Fruits; Loosenesses, and Bastard Agues.

1688, a cold, snowy Winter, unequal Summer, a rainy Harvest; Catarrh, and Loosenesses. In *May*, a slight universal Fever. An Earthquake in *Jamaica*.

1689. From *March* 10 to *October*, very rainy; spotted Fever and Fluxes.

1690,

1690, rainy to *March* 1; fair to the 10th; deluging Rains to *August*; fair to *October* 1; mild to *November*. Agues and wormy Intermittents.

1691, a frosty Winter; excessive hot and dry Summer; ardent and inflammatory Fevers.

1692, a rainy Winter and Summer. *September* 8, an Earthquake in *England, France, and Germany*. In *October*, a general Catarrh.

1693, all unseasonable; Winter, rainy, frosty, and snowy; cold Spring, constant northerly Rains; Summer and Harvest excessive hot and dry; Winter, warm and dry. In *October*, a Catarrh, spotted Fever, Bloody Flux, and Agues.

1694, a severe Frost and much Snow; a burning-hot, drouhty Summer; a rainy Winter. Apoplexies in *Italy*.

1695, from *October* to *April*, all rainy.

1696, *January* like Summer; *March*, very cold and cloudy. From *Easter* to *June*, all heavy Rains, great Floods, and cold; then ten fair Days; but the Rain returned, and continued to *September*; then favourable to the End. All Corn and Hay rotted. No Snow in Winter. *January* 24, three Tides in the *Thames*.

1697, a prodigious Tempest of Hail; no Sun seen before *January* 17; from thence to *February* 11, a hard Frost. A cold North Wind all *March*, and to *April* 11. *July* 16 and 17, Frost and Mildew; calm to *August* 10. By constant daily Rains growing Corn sprouted in the Ear; then came good Harvest Weather. *November* 25, Ice three Inches thick. *December* 6, Snow twelve Inches deep; the rest like *August*. Small-Pox, Purples, Quinsies, *Hungarian* and spotted Fevers.

1698. *January* had much Snow and deep Drifts; on the 26th, a Frost; the Ice eight Inches thick on the Sea-Coast of *Suffolk* on the 29th Day. *March* 24, 26, *April* 11, 25, 27, *June* 3, and *August* 6, Thunder and Lightning. *February*, a cold, cloudy Month; Wind East; 14 Inches deep Snow on the 26th; Ice four Inches thick. *April* 22, a deep Snow; 8th, very cold. *May* 3, a general deep Snow; and, to *June* 18, very rainy. *August*, frosty; all Corn was sprouted in Harvest. From *October* 1 to *January* 1, (even in *Suffolk*, where this Journal was taken) the coldest Year remembered then or since, A great Dearth, bad Food, a great Famine, and an universal pestilential spotted Fever.

1699, all good; the first good Year since 90, the last nine being successively and excessively cold, yet it was a drouhty Year; Grass and Hay scarce. The first plentiful Year since 94 (even here in *Suffolk*) which had a severe Winter; Spring, first warm, then cold, that Summer and Harvest were very good. In 99, Wheat fell from 10 and 11 s. to 2 s. a Bushel. A bad Season at *Breslaw*, with a spotted Fever.

1700,

1700, to *June* 15, all like Summer; the rest variable.

1701, from *March* to *January*, excellent Weather.

1702, *January*, *February*, *November*, and *December*, all rainy and floody; the rest good.

1703, rainy to *February* 15. *May* 4, cold Rain; the same from the 21st to the 30th; in *June*, from the 5th to the 18th, and from the 20th to the 24th, and from *July* 28 to *August* 1, all terrible Rains and Floods; on *October* 26, a most memorable Hurricane. Agues very common, Bloody Flux, and a malignant Fever.

1704, a Drought scorched the Grass and Corn. Dyfenteries, Agues. Journals of Weather and Diseases in several Places being published at this Time, which the Curious may have, a short Account of them in *England* shall henceforward suffice for ordinary.

1705. *August* 11, a Hurricane, and Drought to the 15th; then showry and wet to *September* 7; the rest all a great Drought. *November*, coldish; *December*, rainy; great Losses. No Rain from *Lady-Day* to *May-Day*; then wet, and much Corn spoiled. A blustering *November*, and a rainy, floody *December*. Coughs and Asthmahs rife.

1706, to *April* 23, very cold. Heat and Drought to *October* 26; then a wet Time to *January*, 1707; dry, but not so hot as of late Years. Gripes, with terrible Spasms. In *August*, Intermittents and Loosenesses; continual Fevers.

1708, this, and 98, the coldest Spring, Summer, and Harvest of many Years; no Spring till *July* 16. Fevers, with a Pain in the Side. *August*, Fevers still prevail, but turn to Intermittents.

1709, five Months hard Frost, the Earth almost barren, the coldest of 60 Years, (98 excepted, which continued to *September*, this only to *June*). Tho' 1740 was colder than either, yet it was sooner over; all three Years brought Dearth and Famine. *June* 15 to *July* 15, and *September*, all rainy. In 1702 the Plague rouzed again, and made a 14 Years Perambulation on the *European* Continent, till the great Frost of 1716 put an End to it. It spread in *Poitou* in 1703, and made terrible Havock in the *Hungarian* Mountains; then went towards *Cracow* and *Russia*; after which it spread Eastward to *Upper Wolhinia*, and Westward to *Lemberg*, and raged grievously in these Palatinates; then to *Rudymno*, near *Garislow*, and still went on further till it reached the *Sumber*. In 1705 it got into *Poland*, as far as *Posen*. In 1707 it entered and made great Havock in *Warsaw*. In 1708 it got into *Polish Prussia*. In 1709 it entred *Dantzick* and it's Neighbourhood, and killed 24,533. In *Copenhagen* it destroyed 25,000 out of 60,000.

1711,

1711, a tolerable Year. Whilst the Plague depopulated the North, a three Years Plague broke out among the Cattle that came from *Hungary*. They carried it along to the *Danube*, and so spread it over *Germany* and *Italy*, where it killed whole Herds, yea, the whole Stock in some Parts of the Country. It arose neither from Air, Season, nor Food, but meerly from the Contagion brought along with them, their Saliva left on the Pastures, and the Putrefaction of their dead Bodies. Afterward it affected Horses, Swine, &c.

1712. The Severity of this Winter was little short of 1709 here. Wind North; hence inflammatory and catarrhous Spring Diseases. A cold, wet Summer. In *August*, Bastard Tertians. All Wheat smutted and mildewed; Fruits spotted. Universal catarrhous Fevers in Winter; Bastard Pleurifies; a most sickly Year, from North Winds and great Rains, attended with frightful Thunder and Lightning, &c.

1713, a cold, rainy Season for 15 Months. A malignant spotted Fever here and abroad.

1714, a terrible Year abroad. Plague, spotted and tertian Fevers, great Famine, Rains, Floods, stormy and cold. In *England*, a very drouthy Year, little Rain or Grass; a very sickly, mortal Year in the Nation. The Contagion among the Cattle, from the Drought, reached us this Year, and spread in the Country.

1715 was also a bad Year abroad. Here was a very dry Spring to the End of *March*; a showery *April*, yet Drought still. A very rainy *June*, *July*, and *August* did great Damage to Corn, Hay, and Roads. In *March*, Head-Achs and Small-Pox.

1716, a very hard, severe, long Frost, with much Snow; Catarrhs, Coughs, Apoplexies. Summer not hot, Wind West, or South-West; remitting or slow Fevers. *November* and *December* mild, dark, and damp; Pleurifies. With the Thaw in *February* came Coughs, Looseness, Hysterics, and bad confluent Small-Pox.

1717, a very cold Year in *England*; but not so severe as last, nor so sickly. Diseases fewer and more mild, tho' the same. *Midsummer* and after, warm and dry. Remittents and Intermittents. Harvest was cold and wet. A most fatal continual Fever in the West of *Scotland* in *January* and *February*, and no less fatal confluent Small-Pox in *March* and *April*. In *Germany*, a healthy, late Spring; only a fatal Small-Pox. A mild, pleasant Summer. In Harvest, a Dyssentery. At *Ferrara*, *January* and *February*, Frost and Snow; inflammatory Diseases and Small-Pox. A foggy, rainy Spring; malignant Fevers. Summer, hot and dry.

1718, a cold Winter here; much Frost and Snow, Wind North or East;

M

inflammatory

inflammatory Diseases reigned. A hot and dry Summer and Harvest; a putrid Fever, Intermittents and Tertians. At *Berlin*, inflammatory Diseases, Catarrhs, Rheumatisms, spotted Fevers, &c.

1719. From *May* 1, one of the hottest Summers remembered in *England*, and dry withal; Wind southerly. From *July* 15 to *August* 1, Wind North, and rainy; then, to *November*, hot again; still dry and warm to *January*. Fevers, putrid, continual, remittent, and intermittent. Diseases much the same at *Berlin*.

1720. The Summer and Harvest were dry, but not so hot as last. Both here and on the Continent were Abundance of both intermitting and continual Fevers; Inflammations of several Sorts; rheumatic, arthritic, and scorbutic Pains; several sudden Deaths. A pleasant Summer to *September*; then came on a rainy Time, followed by Coughs, Colds, and Quinsies.

1721. To *September* 1, a cold, moist, rainy Season, with a North Wind; from that to the End, calm, mild, and little Frost; pretty healthy, Intermittents excepted. Several Tertians in *Berlin*; many of which ended in Apoplexies, or spitting of Blood.

1722. Spring, and to *Midsummer*, was very cold, wet, and rainy, the Wind often shifting. Tertians, Quartans, and some Pleurifies. In Harvest Quartans prevailed.

1723. Wind was chiefly East or North. A cold, dry Winter and Spring, mostly cloudy, and so continued till Winter. A most fatal Small-Pox raged; inflammatory Diseases prevailed, and Coughs, Rheums, Hectics, and Consumptions. In Harvest a sharp Cold brought Loosenesses, Bloody Fluxes, and Inflammations of the Bowels; and a rainy *November* caused Pleurifies, Rheumatisms, and Arthritics. This was a sickly, mortal Year over the whole Island; inflammatory Diseases reigned chiefly.

1724, a cold, rainy Summer; till the Middle of Harvest the Wind was chiefly North; then a clear, pleasant Season, the Wind South or North. Winter began with a Frost; then a wet, rainy Time to *January*; yet a very healthy Year to the End of Harvest, when Loosenesses came; till the Frost brought Rheumatisms, succeeded with a favourable Small-Pox.

1725. *January* was warm, pleasant, and clear; Wind South or West till *April*. In *February* came Intermittents and Remittents. In *March*, great Snow, North and East Winds; Chincoughs among Children. All Spring and Summer, from *April* to *December*, a cold, moist, rainy Season; few fair Days, yet all very healthy; only in Harvest a few inflammatory Illnesses.

1726, a sharp Frost; much Snow and Cold in *January*; hence inflammatory

matory Disorders, which went off with the Thaw, but were succeeded by a Bastard Peripneumony. In *February*, cold Rain, Snow and Frost alternately; Wind South. With *March*, a warm Air, a clear and pleasant Season, and a general Small-Pox from *August* to *June* following. A calm, hot, and dry *May*, which caused remitting and intermitting Fevers; then a confluent Small-Pox. *June* was moist, rainy, and northerly; Fevers the same. *July* had Loosenesses and Cholera-Morbus to *August*, when good Weather returned. *September* was a cold, moist Season. A Frost in *December*; then came inflammatory Disorders. The rest of the Winter was very changeable; Rain, Frost, Snow, and Cold.

1727. To the Middle of *April* was excessive rainy, the Air warmer, Wind South; catarrhus, arthritic, and rheumatic Diseases were very common. To *May* 15, warm and pleasant; then came Intermittents and Remittents, with more irregular Fits; then much Rain, and North Wind. This variable State of Air and Wind continued to *July* 1; then was warmer. The former Fevers raged still. *July* 17, after the rainy Season and great Floods was an Earthquake in *Warwickshire*. In *September* were many Intermittents. *September*, and to past the Middle of *October*, was cold and wet, but ended with Frost and a North Wind; then inflammatory Diseases expelled the Agues; but the moist Season returned with a Thaw, and Agues became universal. *December* ended, and *January* began, with three Weeks hard Frost, Snow, Cold, and North Wind; hence Quartans, and Disorders of the Lungs. *February* was warm. This was a barren, dear Year; Oats 20 s. a Quarter, Wheat 7 s. a Bushel. At *Plymouth*, Coughs, with great Defluxions, and swelling of the Glands.

1728. A frosty *January*; *February*, warm and rainy. From *March* 15, three Weeks North Wind, Snow and Rain; then very warm to *August*, when a Fortnight's Rain came. Cold and dry to *September* 1; cold and rainy to *November* 15; then much Snow; two Weeks Frost, ending with a dry West Wind. *December* 13, a great Snow, followed by six Weeks hard Frost. Fevers, Quotidians, Tertians, Quartans, Remittents, putrid, spotted.

1729. *February* ended with pretty much Snow. *March* and *April*, a dry, easterly Wind. *May* 15, cold and rainy; but warmer, with an easterly Wind, to *July* 15; only from the 1st to the 15th of *May* a North Wind, and very much cold Rain. Chincough, Rheumatisms, Inflammations, a general Scabbiness. All low Grounds sorely afflicted with obstinate Quartans and Tertians. At *Plymouth*, Rheumatisms, Arthritics, suffocating Coughs, fatal to the Asthmatic and Consumptive. In *May*, inflammatory Fevers and Chicken-Pox; in *June*, Erysipelas and Small-Pox; in *July*, a putrid Fever, Itch, and Scabbiness; in *November*, an universal

Catarrh. At *York*, *August* brought a whole Tribe of Intermittents and Remittents. A moist Chincough among Children. From *September* 15 to *December* 15, a southerly, moist, rainy, cloudy, foggy Season, far beyond all the late preceding Years Rains. But in the South it was more changeable than rainy, where they had little Rain or Snow to open their Springs, since their great Snow in *January* 1725, and had very little Rains till 1734. Yet 29 was a most plentiful Year of all good Food; the Dearth that continued two or three Years ceased, and all Grain sold at a fourth Part of the late Price. After the End of *December*, no great nor long Rains before 1733, and all plentiful. The Winters were warm, due Rains fell in proper Seasons. Only *December* 21, 1730, great Rain in the South, and great Snows in the North on the 9th of *January*; but not in the South, the Wind being North and North-East. In 31 the Drought came to a general Calamity in the South and West of *England*, as *July*, *August*, and *September* were scorching-hot and dry. *January*, *February*, and *March*, 32, continued cold, and no Spring before *June* 15; then warmer, but the Earth hard and dry. Wet the latter End of Harvest. *November*, cold, rainy, and snowy to *December* 16. From *January* 15, 33, a warm South Wind to *February*; a kindly but most mortal Season without the Plague. *March* cold; but the 13th and 22d rainy. *April* and *May* cold and dry; then, to *July* 8, excessive hot and dry. A plentiful Year. From *August* to *January*, warm, growing Summer Weather; but three Weeks Frost in *January* put all back.

1730. As several ingenious and eminent Physicians have favoured us with excellent Histories of the most prevailing Diseases both in the North and South of *England*, from 1728 to 1748, we shall only give a brief Account of the Weather and Food in those Years, and then be a little more particular to the present Time.—1730. In *January*, three Days Snow; then warm to the End of *February*, which brought some more Snow. *March* 15, rainy. In 1729 ended the Dearth and Scarcity of 27 and 28. From *July* 1 to *September* 29, the Wind was North, North-East, or East; after *September*, West or southerly, with the greatest Rains and Floods (since 1725) till *December* 15. From that were no great nor lasting Rains before 1733 (except on *December* 21, 1730, *January* 9, 31, a great Snow in the North) only local seasonable Showers, and great Plenty: The Winters were warm.

1731, a great Drought from *July* to *November*.

1732, a Drought to *April*, and very cold to *June* 15; afterwards much warmer, but dry. The Harvest ended wet and warm. *November*, to the 24th, cold, snowy, rainy, and frosty. To *Dec.* 16, a warm South Wind.

1733.

1733. *February* and *March* very cold; on the 13th and 22d, great Rains. *April* and *May* cold and dry. From *June* 4 to *July* 8, excessive hot. Some Rains in *August*. From thence to *January*, Summer Weather, and great Plenty.

1734. In *January* three Weeks Frost. From the End of this Month to *December* 37, all wet, rainy Years; but chiefly 34 and 35. The Year 38 was dry, like 31 and 33. 39, wet and rainy, like 29; especially *January*, *February*, *April*, *August*, *October*, and *November*. 38 and 39 were extraordinary rich and plentiful Years. From *December* 39 to *May* 40, was the greatest Frost *England* has felt for 300 Years past; yet not so cold as 1698 or 1709. In 40 and 41 was a Famine. On *June* 12, 34, began the long wet, cold Season, and continued to *February* 2, 36; then frosty Nights to *June*; very hot to *August* 6; cold and rainy to the 27th; clear and hot to *September* 4; then cold. From *October* 17, a continued Drought, but changeable Air. *February* and *March*, 37, excessive cold. From the 6th of *February* to the 6th of *March* fell 28 Inches and a Half deep of Snow. No Rain, but all very cold and variable. A cold East Wind all *April*. *May*, hot and dry. *June*, to the 16th, cold and dry; then a Month hot and dry. From *July* 20 to *August* 25, cold, cloudy, windy, showery, stormy, like a bad *October*; but thence, to *September* 22, warm and pleasant; to the End, Rain, Sleet, and Snow. *October*, to the 21st, temperate; then hard frosty Nights, and Northern Lights. *November* was very good; *December*, moist, wet, and southerly. This was a dry inconsistent Year to *October* 29; then all moist to *January* 14, yet little Rain to *February* 15. A lovely warm Spring to the 17th; then three Nights hard Frost, and dry, cold, and changeable to the End.

1738, to *March* 23, cool and pleasant. A warm, dry, cloudy Spring to *April* 10, which had much Rain; then several cold Days, with some Rain, Sleet, and Snow. *April* 10, to *June* 21, cold and moist, yet no great Rains; to *September* 7, good, dry, and healthy; to *October* 4, very wet. A dry Year; Water scarce in *December*.

1739 *. *January* began with high Winds, great Rains, Sleet, Snow, and Floods. The first of *February* the same; from that to *March* 4, a warm, early Spring; cold to the 12th; from the 14th to the 21st fell 26 Inches deep of Snow and Hail, besides 12 Inches deep on the 5th and 9th of *February*, but very little Rain. From *March* 21 to *April* 23, tempe-
rate;

* The great Frost began *December* 25, and continued eight Weeks with some Relents, but was not out of the Earth before *June* 40. Tho' 38 and 39, were uncommonly plentiful in Corn, Grass, and Hay, yet in 40 began Floods, a Famine of all three. Wheat was 7s. a Bushel, Rye 5s. Malt 36s. a Quarter, and Hay from four to six Guineas a Tun. In 41 all rose much higher. A shocking Time for the Poor; neither Money nor Trade in the Nation, which was engaged in a foreign bloody War; but an uncommon Spirit of Charity and Liberality among the Rich, was a great Relief to the Poor in most Towns.

rate; to the 24th, severely cold. On the 3d and 4th much Snow; severely cold to the 24th. On the 25th, much Thunder; to *May* the 6th, great Rains. *May* very hot; *June*, to the 13th, wet; to the 20th, dry; to the 27th, rainy; but ended dry. *July*, very wet and changeable. *August*, cold, wet, cloudy, and unpleasant. From *August* 22 to *October* 1, fell more Rain than in 38: A shocking Time; Floods almost daily. From *October* 14 to the End, frosty Nights. *November* 21 to *December* 9, wet, rainy, sleety, and floody: A shocking Time to the 25th, that the greatest Frost in our late Records began; especially on *December* 29, 30, 31, *January* 2, and *February* 22, which were all severe beyond Expression.

1740. This Cold continued till *June* 21, few Days excepted. *June* and *July* colder than ordinary. A great Drought till *August*, which was very unequal, cold, and moist, without much Rain. From *December* 20 to 27, a constant Shift of Rains and Frost, most undesirable. *September* 28, brisk-running Rivers were frozen over. *October* was bitterly cold. *November* 1, Rain, Sleet, and Snow; great thick Sheets of broken Ice raised a most memorable destructive Flood. *December* 8 to 22, all Snow, Frost, and Floods; very terrible.

1741. *December* 28 to *January* 7, a charming Spring; to the 17th, a hard Frost; to the 24th, a Thaw and small Rain; to the 29th, a Frost; then a sweet Season to *February* 25; tempestuous to the End. *March*, good to the 10th; to the End, cold, dry, frosty, misling, a North Wind, and much Snow. *April* and *May*, one continual Drought, and often hot. *June* 1 to *August* 22, Heat and Drought, with rich, unequal, local Showers: The 22d and 23d brought the first general Rains. Drought again to *September* 7; then five Days general continued Rain opened all the Springs, and softened the hard-crufted Earth. This was the hottest and calmest Summer since 1719. The rest of *September* calm and warm. *October*, haizy, sultry, and moist Air; Frosts, few and small. *November*, clear and warm, with small Nights Frost. From the 17th to the 26th, rainy, misling, and warm; to *December* 4, clear and hot, like *July*; to the 24th, calm and foggy; then a very hard Frost, and Snow 12 Inches deep.

1742. To *January* 3, a Thaw; to the 10th, a hard Frost. On the 12th fell seven Inches deep of Snow; on the 13th and 14th, great Floods; from the 17th to the 24th, fair; some showery Days; on the 25th, Northern Lights. A few Showers in *February* and *March*; all the rest dry to *June* 18; then dropping Showers to *July* 1; to the 22d, a Drought, and to *September* 5; then, to *October* 10, frequent Showers. From *October* 16 to *November* 8, raw, moist, misling, showery, and rainy; from the

the 8th to the 15th, a clear Frost; to the 23d, fleety, showery, and rainy; from the 26th to *December* 3, a Frost; from the 8th to the 20th, Frost; from the 25th to the 27th, Frost; then, to *January* 7, wet, rainy, and showery.

1743. *January* 7 to 13, and from the 15th to the 21st, then to *February* 2, all clear Frost. *February* 3 to 7, rainy and showery; the 11th, rainy; the rest all dry, with some small Frosts. A most mild, dry Winter, and great Want of Water. *March* 18 to *April* 10, several small Showers, or Flights, of Snow. From *March* 9 to *April* 28, a remarkable cold Drought. *July* was very wet; then no more till *October*. A Drought again to *February* 1744. In the End of *February*, all *March*, and most of *April*, soaking Rains; all Springs were opened. *September* and *October* had great and almost constant Rains; much Wheat was spoiled or lost. The Winter was cold and moist, as the Summer was droughty. This concludes the fifth Year's Drought since 39.

1745. All *February* and Part of *March* was a hard Frost; then much Rain to *March* 20; some fine Days after; then some cold Rains. A cold Summer. *June* and *August* very rainy. A windy Spring and Beginning of Summer. Harvest calm and fine to the End of *October*. *November* and *December*, dark, cloudy, misting, wet Weather, with a few small sharp Frosts.

1746. In *January*, Frosts, Thaws, Wind, and a deep Snow towards the End of it. Frosts, Snows, and Rains to the Equinox. The rest of *March* partly fine, and pretty wet; the rest of the Spring, a Mixture of Dry and Cold. All *May* was hot; *June*, wet and windy; *July*, and to *October*, dry and good; then rainy. Winter was very mild.

1747. *January* and Part of *February*, mild and wet; near the End of *February*, Frost and Snow. All *March* was cold and dry. *April*, a fine Seed-Time. *May* began dry, but soon turned to wet; a rainy Season followed till *July* 6; then a Drought to the End of *November*, when, in one Night, fell two Feet deep of Snow, followed by great Rains and Floods. The rest of the Winter not very wet; but several small Snows and Frosts in *March*, yet never above three Days at once. *January* and *February* were often foggy, and had white Rhines.

We shall be a little more particular upon the following Years, as I have seen no other Author upon the same Subject since 48.

1748. *January* and *February*, often foggy, and white Frosts. This was the coldest, latest Spring I ever saw; no Signs of it before *March* 15; then a full Stop till after the 20th of *April*. No Grass the 29th; Wheat, on Clay Ground, seemed chilled and lost. Then came on the Spring at
once

once surprizingly fast and plentiful; warm, showery Weather, with Thunder, hastened it on. *June* 11, great Heat, and very wet; on the 12th and 13th, 36 Hours Thunder; a hot, showery Month; great Plenty of Grass; but the early Hay-Time being wet, much was badly got; the latter Hay-Time very good. A rich, plentiful Harvest; the first Part good, and well got; the latter, but indifferently. From the 14th to the 24th of *August*, showery; then calm, clear, fair, and pleasant to *October* 14; then some calm, frosty Nights, followed by a little Rain; the Ground was dry, and Water scarce. A dry, warm, mild, and open *December*; and most of *January* open and wet, with now and then two or three sharp Days. The Fields were green to *February* 1, which was a calm, cloudy, foggy Month; yet the Spring was backward, with cold Seasons, and some Frost to the End of *March*.

1749. *January* was wet; the former Part windy, mild, and open; towards the End, broken Frosts. *February* begun wet; but soon turned frosty, and was followed by calm Weather; fine and warm for a few Days; then turned dark, cloudy, or misty. *March* was calm and wet; it begun warm, but Things did not put forward; the rest was chiefly cold. *April* was a dry, pleasant Month; the Spring came on slowly, and Rain was wanting at the End to bring up the last-sown Corn. *May* begun and ended cold; the Middle was hot; it was dry in this Country, and late-sown Corn bad. *June*, for the Season, was wet and very cold; but it ended dry and hot, and a fine Hay-Time. To *July* 5, mostly hot and dry, with Thunder, and several Showers. *August* was showery at first; but in general it was a hot, dry, burning, calm Month, and a lovely Harvest. *September* also was a pleasant, calm Month, with sweet refreshing Rains about the Middle. *October* also was a calm Month, and mostly dry and mild; the Middle was fine, but sometimes cloudy, calm, and moist. Towards the End it grew wetter, being Rain almost every Night. *November* was a dry, calm, mild, and dark Month. *December* was at first dry and mild, then windy and wet; after that, broken Frosts till near the End. The Beginning of the Year was chiefly windy, wet, and mild; except at the End of *January* and *February*, which was frosty, and then mild again; yet the Spring was backward; the rest of the Spring was dry, and late-sown Corn did not come up well. The Summer was very irregularly hot, being at different Times hotter and colder than usual; the Crops were good and well gotten. The Autumn was very dry and fine, even to the shortest Day, when it turned wet, or Frosts to the End.—From *January* 14 the Small-Pox stopp'd at once; never a healthier Time known till the latter End of *April* or 5th of *May*, that the hot Weather began, when Hectics became

became riper than ordinary among weak, slender, phthifical People, Tipplers, Whetters, and Drammers. Such had a general Relaxation, and some had Swellings on their extreme Parts; they had a quick, small Pulse; sudden and frequent Returns of Heats and Colds, with great Weakness and Anxiety; and Pain in the Breast and Side. They were thirsty and short-breathed, had a severe Cough and much Phlegm; their Urine was high-coloured, then broke, and let fall a large, white, and clayey-coloured Sediment; but when it turned clear the Case was worse; they coughed most of the Night, and had profuse Morning Sweats. The Cure consisted in small Bleeding, blistering the pained Side, and a strong Decoction of Pectorals boiled up to a Kind of thin Extract; and, when cold and strained, four Times as much *Nevil-Holt* Water was put to it; Dose four Ounces, often in a Day; with an Electuary of Conserve of Hips, red Roses, Sperma Cæti, Nitre, simple Powder of Arum Root, *Poterius's* Antihæctic, &c. and at Night, to check the Cough, a Draught of Corn-Poppy Water and Syrup, with dulcified Spirit of Nitre.—In *April* and *May* sudden Loosenesses were common, and some had the Cholera-Morbus. Now all Disorders were attended with a great Propensity to a Looseness; so that it was not only unsafe to give Laxatives, but Gum Ammoniac, salt Draughts, pectoral Decoctions, Lemon Juice, they all occasioned a Looseness. These few hectic or peripneumonic Disorders continued frequent all Summer. Some Cholics and Hæmoptoes.—In *October* were some pleuritic Complaints; but the old bilious Fevers were more numerous than all the rest; they began in *July*, continued all Harvest, and dwindled out in Winter, and declined gradually both in Vigour and Danger. Their Method of treatment was the same as formerly.

1750. *February* begun moist and warm; then very dry, and often hot. An early Spring, and good Seed-Time; but too dry for Beans and Pease; hence they were the only Crops that failed. There were many Earthquakes, which greatly alarmed the Nation, especially *London*.—In *January* were fiery Heavens; in *February*, many *Auroræ Boreales*.—*March* was dry till near the End; great Want of Water. The Spring was stopped a Month in *March* and *April*.—*May* was dry and cold.—*June*, showery, with some hot Days; hence Plenty of Grass and Hay.—*July*, to the 9th, too hot for the Climate; then Thunder, Rains, showery, and stormy to *August* 14. A sad Beginning of Harvest, yet great Plenty of good Corn, and well got. After a windy *August* came a dry, calm, cloudy *September*. A fine *October*, but ended with a severe hard Frost, and great Want of Water, till the plentiful Rains on the 13th and 14th of *December* opened all Springs, when the moderate Rain of the 5th of *November* past was drained

off again. A warm, dark, misty, cloudy *Christmas*; a very wet Winter till *January* 22; then a sharp Frost, and dry to *February* 15; then stormy, wet, rainy Weather to *March* 25. Tho' there were no long heavy Rains nor great Floods in the Spring 1750, yet all Roads were very bad; Plowing and Sowing kept back; the Earth's Surface, a Bogg; yet it was very dry below; no Springs having been opened the last three Winters before *December* 14, yearly; but for all the small Rains that fell from *April* 14 to *July* 15, yet the Drought came to a great Extremity; from *July* 1 to 15, in Pastures and mown Fields, all being red or white. From *July* 8 to 15, we were shifted into the Torrid Zone; but on the 18th, 19th, and 20th, the Heat was as great as in *South-Carolina*: That Heat killed several People at Work in the Fields, many Horses fell down dead on the Roads, under their Loads and Draughts, and Corn ripened before it was duly filled.—From *December* 14 to *May* 1, 1748, tho' there was neither great Rains nor Floods, yet the Roads were never so full of Water since the Spring of 1729. The Spring after *February* 25, tho' cold, was very healthy. With *April* came in several Colics and inflammatory Disorders, as slow Peripneumonies, Hectics, &c. Upon the whole, it was cold to *June* 17, then four Days excessive Heat; after that tolerable *March* Weather to *July* 8, that the Heat began, which so rarefied the Blood, and relaxed the Solids, that a third Part of all People was seized at once, either, 1st, by cuticular Eruptions (red or scarlet and a little swelled) as if they had rolled naked in a Nettle Bed. This was cured by moderate Bleeding, two or three Doses of *Glauber's* Salts, and the Use of cooling Acids. 2dly, A sudden profuse Diarrhæa, with large bilious Stools, with some griping; a few Doses of torrified Rhubarb and Acids took off this Disorder. 3dly, A slow Fever, whose Characteristic was a constant severe piercing Pain at the Pit of the Stomach, so as not to endure a Touch of the Finger, or Weight of Bed-Cloaths; and a Swimming, Giddiness, or Stupor of the Head, with little or no Pain. The other Symptoms were, universal Weariness, Weakness and Faintness, Langour, and constant Diarrhæa through the whole of the Fever, (if not prevented at first by a Vomit of *Ipecacuana* and Vinegar of Squills, which either prevented the Fever going further, or made it more tractable through it's whole Course) obstinate Watchings and Delirium increased by any Opiates; picking the Bed-Cloaths; some had great Thirst, others none; the Tongue was covered with a white or yellow Mucus; a smaller slower Pulse than in Health; the Head was most affected; others had a small quick Pulse, scarce perceptible; their Urine was sometimes clear and pale; other Times high coloured, or whitish, and let fall a large whitish Sediment; many were spotted all over. If the Sick were

let

let Blood, it weakened their Strength and Pulse, increased the Langour, made the Fever more dangerous, or protracted it to the 30th or 40th Day. The Disease weakened the Head and Nerves, and left a Sillyness, Deafness, or Weakness on the Nerves long after; and the Fever required stronger corroborant Cordials than usual. The Cure consisted in giving an early Vomit, encouraging a gentle Coolness, the Use of vegetable acid Drinks, as Lemonade, Lemon or Sorrel Teas; and if the Sick were faint, Contrayerva Root, Confective Cardiacæ, *vel* Raleighana, Valerian Root, and small Draughts near the Height. If there was Pain of the Head, or great Stupor, or a very weak low Pulse, Blisters were applied. A little red Wine, a well-aired or ventilated Room, and Cowslips Flower, or Poppy-Head Tea, at Night. This Fever, Fluxes, and Cholera-Morbus, continued all very favourable, if rightly managed; none died of the Fever, but some, (very few) young strong Persons, though above Half were spotted.

From the End of *August* to the Middle of *October*, reigned a most favourable Measles, which afterwards degenerated into a far worse Kind; in several the Eruptions being succeeded either by a strong colliquative Hætic, or Diarrhæa, which being of difficult Cure, was often fatal.—The Storm of Frost and Snow in the End of *October* occasioned a Catarrh in many, followed by an Inflammation of the Throat, cured by Bleeding. The first Week of *November* being very rainy, was followed by several Paralytic and Dropical Disorders. In the Storm in the last Week of *October*, there began, and continued to *December*, the most universal and severe catarrhus Fever among Horses ever known; not one Horse of an hundred in *England* escaped it, and Abundance died of it. Such as were kept out at Grass, and not taken into the House, got most easily over it. Just at the breaking out of this Distemper the mad Staggers killed many fine Horses. The Cattarrh among People, tho' it was not so severe as it often is, yet many of all Ages had it, more or less.

1751. All *April* and till *May* 15, fell most shockings Rains, but *May* 13 exceeded all Rains I ever saw for a whole Day together; a prodigious Flood, and many People were drowned. All *May* was excessive cold, and little Spring. From *May* 15 to *June* 30, a cold Drought again, and little Vegetation. *July*, *August*, and *September*, all wet, rainy, and great Dews, a light late Crop, and much of it badly got, hence a Dearth; Oats 16 to 20 s. per Quarter, Wheat 5 s. per Bushel; great Plenty of good Eddish till *Christmas*. A mild, but very wet *October*, with some Frost and Snow. A cold dark Winter, little Sun, and frequent Rains. *February* ended fair, mild, and sunny. This Year was remarkable, 1. For the Temperature of the Air, being neither too hot nor too cold. 2. It was a very wet Year,

had very little fair Weather. 3. It was a dear Year, and late Harvest, much Corn to get in *October*, and near the Moors much ungot in *November*; Oats were very bad, green, and ill filled; when dry not above 7 ft. Weight to a Sack; both this Year and last, Eddish was good and plentiful; but the Roads were excessive bad, scarce passable. All Mineral Waters, both this Year and 55, were greatly weakened by the Rains, and failed of their common Success.—The Height and Changeableness of Winds, Colds, and several soft Frosts, prevented Epidemics; but the Rains, moist Air, and its unequal Temperature in the Spring, occasioned several slight temporary and some incurable Palsies, Dropsies, Cachexies, Abundance of Catarrhs, and (tho' not Epidemic, yet) the most obstinate Coughs I have seen; they mostly continued some Months, tho' the greatest Part dry, or had a little transparent clear Phlegm with Froth and Water: But if Thickeners were made Use of to stop the Cough, or Opiates, oily, or sweet Mixtures, the Sick became asthmatic, till the Cough was roused again by stimulant, inciding, and nervous Medicines. Fewest of those Coughs were attended with, or followed by, Hectic or Phthisics I ever knew. But as Rheumatisms were almost universal, (tho' rarely accompanied with a Fever) it attended all Catarrhs. Keeping warm, diluting, and moderate Sweating was a general Remedy. If an inflammatory Fever attended the Rheumatism, drinking plentifully of warm Whey, made of *Nevil-Holt* Water, with a little white Wine in it, according to the Patient's Strength, or former Way of Life, was the easiest, quickest, and safest Cure; as it is a most powerful Cooler, Bracer, Laxative, and Diuretic.—This is the first Winter since 41, that the Town had been without the putrid, malignant, spotted Fever. In *February* and *March* were sundry Complaints of a sudden, acute Pain at the Pit of the Stomach and Left Side, which soon proved fatal to some: It often attended a Catarrh; if alone, it shifted between the Limbs and Stomach: Warming Diaphoretics, with a little Rhubarb, dissolved it. The Height and Variableness of the Winds, the moderate Temperature of the Air, and the Goodness and Plenty of the old Grain, contributed to prevent Epidemics. After the great Rains in *May* there were a few Spring Intermittents, some Hæmorrhages, and several Palsies. In the latter End of *June* and *July* appeared again a few putrid Fevers among the Poor, wherein keeping the Sick very cool, with open Doors and Windows, was a material Part of Cure. Some had slow nervous Fevers; Bleeding was fatal, or dangerous to them. Hyppo and Hysterics were common, and not a few Rheumatisms. There was nothing peculiar in the Cure of these. The Fevers came not to a Crisis before the 20th or 21st Day, tho' never so slight. Its Characteristics now were much
the

the same as before, *viz.* an instantaneous Weakness and Weariness; a Confusion, Stupidity, Swimming, or small Pain of the Head, Lowness of Spirits, and often sick Fits. Some were loose, others costive; the Tongue dry and white, tho' much furred; the Urine sometimes clear, pale, amber, or high-coloured; but oftener thick, muddy, white, or a little brown from the first; it often separated, and let fall a very large Sediment, till a large, thick, heavy, lateritious Sediment appeared, the Forerunner of a Crisis by Sweat, or Expectoration, but so gradual that it was often insensible. The great and long Moisture of the Air disposed the Sick to a Looseness, often with Gripes, which was a fatal Sign. Diarrhæa, Catarrh, Dropsies, and all Disorders of a lax Fibre were common, but mostly in slight Indispositions. A Thrush; hard livid Swellings in the Face, like a Schirrus; violent Pain at the Pit of the Stomach, like that in the *Hungarian* Fevers, were all fatal Symptoms. There was no Crisis before the 21st Day, nor before a lateritious Sediment in the Urine. A white, yellow, or brown Sediment, tho' never so large, ponderous, or well-separated, were of no Service, for they often turned pale or clear again, especially where the Salt Draughts were used. I never saw the Hyppo so frequent or severe, it often turned to a Melancholy.

1752. Very cold and frosty to *March* 25; much Rain, Snow, and Hail Storms. *April* was clear, and warmer; but all drying Winds, and nightly white Frosts. Pretty dry to *May* 27; then a miserable wet, moist, rainy Season to *September* 13. The Harvest was got with Difficulty, yet Grain, mostly sound, good, and plentiful. Oats 10s. *per* Quarter, and Wheat 4s. *per* Bushel. From that the best of Weather to *December* 10, (except *November* 11, a general Snow, Rains, and very great Floods) that the Rains returned, and continued very great to *February* 12; but was a sorer rainy Time to the 23d; and also, from *March* 14 to *April* 7, as dry; and wet to the 30th. This was the earliest and most forward Spring that had been for the last 50 Years. The Summer was showery and moist, without great Rains or Floods; but a very rich Year for Grass, Hay, and Plenty of good Corn; no Excess of Heat or Cold. Tho' it was a moist Summer, yet the Rain only wet the Earth's Surface, most of the Springs being dry, and Water scarce, till *August* 26, when there came 30 Hours great Rain. But it was a shocking rainy Year in *Scotland*; there they had only a Month of dry Weather in Sowing-Time. The South and North of *England* had also more Rain than the Center. There were only nine Days East, North-East, or South-East Winds, from *January* to *October*. This whole Time was very healthy; only first, in the Spring, some Rheumatisms, which often fell on the Bowels like a Cholic, with severe and dangerous.

dangerous Pains, like the Iliac Passion. 2. Some had slight Peripneumonies (for tho' we have had far fewer true Pleurifies and Anginas since the Year 40, Peripneumonies have been much rarer every Spring, tho' mostly of a slighter Kind than formerly) with a tickling Cough, quick Pulse, slight Pains in the Sides or Breasts, and a constant great Pain at the Cardia. 3. A very tedious Hippo. The first was cured by Bleeding, Blistering, Demulcents, and Anodynes; but, if inflammatory, much sooner and easier by the above Whey of *Nevil-Holt* Water, taking proper Care that it go not too much off by Stool.—The second was cured by Bleeding, blistering the Side, the Use of very mild Lenitives, and often drinking or sipping small Doses of a tepid Decoction of Roots of Butter-Burr, Liquorice, Leaves of Maiden-Hair, Fumitory, Liver-Wort, Ground-Ivy, Agrimony, Fennel Seeds, stoned Raisins, and Figs, and the strained Liquor made into an Emulsion with the cold Seeds, Poppy Seeds, and sweet Almonds, with a Dram of Salt-Petre to each Pint, and an Ounce of some distilled Water.—The third, tho' obstinate and severe, was conquered by daily Riding, cold Bathing, mild Vomits, and deobstruent Laxatives.—In *June* begun the Small-Pox of a most favourable Sort; they were distinct here, but at a few Miles Distance they were confluent, and mostly fatal. In *July*, and to the End of *August*, some few had a Fever, which held the Sick from 9 to 40 Days; they were deaf, and often delirious, with the former Disorders in the Head, but had great Pain in the Back. They, when wholly sensible, and not the least weakened in their retentive Faculty, let go their Stools and Urine in Bed, without giving the least Notice. Their Pulse was often strong and throbbing; but if Blood was let they quickly became faint, low, and the Fever more tedious, intractable, and dangerous. Some had great Thirst, others none. Their Tongue was parched, brown, and rough, or white and slimy, or covered with Mucus. The Urine as in Health, or pale, brown, or yellowish; all these made at different Times by the same Person. Near the Crisis it had a small light Cloud; then muddy, then whitish, then a Clay Colour, then a lateritious Sediment; yet often, even at the Crisis, changed all these Colours several Times, yea, often in one Day. The Cure, as usual, was begun with a Vomit, which mostly made all safer and easier. If a Diarrhæa attended not this Fever, (as it mostly did in all these wet Seasons) mild Laxatives, or Glisters, were necessary; then the Powders of Contrayerva and wild Valerian Roots, Castor, and Salts of Amber, with agreeable Salt Draughts, were proper. No Sweating availed before the Urine separated, and let fall a lateritious Sediment; then a slight Infusion of the Bark, and the saline Draughts, mixed, compleated the Cure. None so treated died.—

As a most severe Pain on the Right Side, and an icteritious Countenance attended all Disorders this Summer, I suspected some Disorder in the Liver; accordingly, from the Beginning of *August* to the Middle of *September*, we had a Run of Jaundices, like that in *November* 47, but not so obstinate. A few had an Inflammation of the Liver. The Small-Pox in Winter were epidemic, and fatal here, and as favourable in the Country about us. To Adults it was a most healthy Time, except a few inflammatory Rheumatisms, with a raging Fever; but the *Nevil-Holt* Whey, with proper Care, soon set them right.

1753. *February* 12 to 26, all rainy; to *March* 14, fair and mild; to *April* 9, wet, rainy, and showery; to the 28th, showery and wet. The hottest *May* of many Years; the 26th and 28th raised *Farenheit's* Thermometer to 72; but the 27th, the most intolerable Heat, to 76. This Heat and Drought continued to *July* 1; then, to *August* 24, a showery, wet Time; then an excellent Harvest, mostly clear, often hot. No great Rains, yet a wet, moist Time to *October* 19; then Abundance of Frost to *December* 11; rainy to the 15th, and the 19th, 20th, and 26th: All a good Year. Wet and misting all *October*, and to *November* 26; from which, to *March* 13, were 42 Nights hard Frost, besides white Frosts; and only 32 showery, misting, drizzling, or snowy Pieces of Days.—This Year was all healthy, free from any Epidemics. There were a good many fatal Consumptions from slow Peripneumonies, which have been much more frequent here since 1740, that our former Quinsies and Pleurisies have been milder and fewer. An inflammatory rheumatic Fever afflicted several, but was soon cured by the above *Nevil-Holt* Whey. From the moist, misting, cloudy Weather in *October* and *November*, came some Dropsies, fatal Apoplexies, and Palsies. The Frost suddenly carried off, in Coughs and Asthmas, many, whom the Mildness of the last three or four Winters had spared. They were all attended with Dropsies, incessant dry Coughs, violent Pains of the Stomach, Shoulders, Legs, &c.

1754. From *November* 27 to *April* 2, were more hard Frosts, severe Colds, deeper and greater Snows, than in all the last 13 Years taken together, especially in the South. *February* 26, a strange Meteor was seen both here and at *Dublin* at the same Time; only here it exceeded the Brightness and Largeness of a full Moon for five Seconds; there it was like two Men rushing violently against one another. *March* 20, at One A. M. from North-West to South-East was a light white Cloud, with the full Splendor of the brightest *Aurora Borealis*. From *April* 11 to 19, small Showers, Frosts, and some Snow; on the 20th, great Rain; then good Weather to *May* 22; but after that little fair Weather to *August* 9. This long,

long, wet Season made Corn run strangely up to Straw, and a lean, small Ear; but great Plenty of Grass, Hay, and Straw. The Crop proved not so good as it looked by far, and was expected. Old Oats rose from 15 to 21 s. *per* Quarter, and Wheat from 3 s. 4 d. to 5 s. *per* Bushel. From *August* 9 to *October* 3, a lovely, dry, Sunshine Summer; it brought the best Crop of Beans in the Memory of Man, at 4 s. *per* Load. From *October* 3 to 13, some Rain; then an excellent Time to the 25th; then, to *November* 12, a shocking Time of great Rains and terrible Floods. From *November* 12 to 25, foggy, cloudy, and calm. Then a hard Frost to *December* 9; then misting, rainy, and cloudy, with high Winds, and a low Barometer to the 17th; then a dead Calm, high Glass, some Fogs, and gentle Frosts to *January* 1; then high Winds, mostly North-East, a high Glass, some small Showers, and 11 Nights Frost to the 16th; rainy, snowy, and misting to the 22d; North and North-East Wind to the 29th; cloudy and small Frosts to *February* 4, when a severe hard Frost; various Winds and great Cold prevailed to the 19th; then great Snow, some Rain, and a very hard Frost to *March* 13; a cloudy, moist, misting Time to the 22d, which, with the 25th, and *April* 1, 2, and 3, had pretty much Rain. These Snows, hard and cold Weather, and late Rains, retarded the Seed-Time. This, upon the whole, was a cloudy, dark, unpleasant Winter; from *December* 20 to *April* 5, the Sun was seen only on 20 Days. On the 8th of *February* 54 and 55, the Wind North both Days, a dead Calm, the Cold and Frost equally severe on both; the Thermometer below 15, in *London* 10, at *Bath* only 5. The former slow Peripneumonies were pretty rife; a few fatal Dropsies, and Consumptions from spitting and vomiting of Blood. From *April* to *September*, Hooping Coughs among Children were epidemic; it was often attended with a Hectic. In *July* begun (and was very frequent among the poorer Sort to *January* 1, that it wholly ceased) the former petechial, putrid Fevers: Some were covered with Spots, others had none, but equally dangerous to both. The Sick had a rapid, strong, quick Pulse during the first, second, or third Days of the Fever, with a Pain in the Head, and Restlessness; then the Pulse flagged, and in a few Days became very weak and quick, and scarce perceptible. The Mouth and Tongue furred, or parched up; but little Thirst after the first Day. The Urine was very high-coloured at first, then very pale for some Days, with a very small, light Cloud suspended in it; other Days it was deeper tinged, and, when cold, like white Clay Water; then pale again, then thick and muddy, and let fall a very large white Sediment; some few at last had it lateritious. Restlessness, Anxiety, Weakness, and Weariness attended most. Twitching, Subfultus Tendinum, black, dark,

or

or brownish Spots were threatening Symptoms. All were deaf, and many delirious. None could bear Bleeding, for those that were bled had strong Constitutions; yet they paid dearly for it, for they had worse Symptoms, were held twice the Time in it, they rarely had a true Crisis, which fell on the 15th, 17th, or 21st Day. A Vomit at first, and a laxative Glyster every second or third Day, were all the Evacuations the Sick could bear. This Fever was very contagious, and several died of it, especially if very weak, poor, or had been bled. Many had Relapses.—In *October* begun, and continued all Winter and Spring, a frequent and almost only Disorder of the Season, (the Fever excepted) *viz.* a Rheumatism in the Stomach and Bowels, with violent Pain, mostly attended with a Fever Fit, and sometimes Sweat. It raged chiefly in the Night, and especially towards Morning. It often shifted to the Neck, Shoulders, Sides, Back, Arms, Legs, Thighs, Hips, or Groin, and raged most severely. Urine sometimes thin, other Times thick, muddy, high-coloured, and let fall a large Sediment, which in some turned lateritious. The Pulse in the Fit was quick and high, but at other Times calm and easy: It left them weak and pale. Letting Blood (tho' it was fizy, and seemed to be necessary) gave no Relief, but the contrary; nor were Blisters of any Use. All were costive; yet Purging weakened the Sick, and exasperated the Pains. Laxatives, with Anodynes and Diuretics, agreed well; then Decoction of the Bark, with Rhubarb, finished the Cure. It often turned intermittent. All thus managed did well. The Severity of the Winter occasioned Abundance of Colds, Coughs, and Hoarsenesses; tho', in the general, this was a very healthy Year.

1755. From *April* 27 to *May* 3, a remarkable cold, wet Season of long Days; much Snow; frequent and heavy Rains; to the 16th, wet, cold, and showery; to *June* 8, dryer and warmer; to the 17th, showery or missing; from the 21st to the 28th, showery; from the 30th to *July*, wet; from *July* 6 to *August* 6, all wet, showery, missing, and rainy; from the 21st to the 26th, wet. *September* 1 to 12, rainy, showery, and great Floods; the same from the 20th to the 20th of *January*. A miserable Year of Rains, and several Floods. Roads almost impassable, Rains with all shifting Winds, and some sharp intervening Frosts. Hard-Corn Seed-Time sadly kept backward. No Season this Year fit to be called Summer. Much Wheat spoiled in *Cheshire* and *Lancashire*, and much Seed in fenny Grounds drowned and rotten. All Corn dear; Wheat 5 s. 4 d. per Bushel, Oats 16 s. per Quarter. Barometer very low, and variable the whole Year. Little Trade, Money, or Sickness; Provisions dear, no Epidemics stirring. Several weak, worn-out, and aged People died. In *October* and *November*

a few Palsies, Dropfies, and Jaundices; no Fevers, but some few mild flow ones among the Poor, from bad and scanty Food. Our former Harvest and Winter putrid Fevers, which had continued near 15 Years, were almost extinct here. All this cold, wet Summer general Health continued. In *November* the Rheumatism, which, the Winter before, fell chiefly on the Bowels, begun this Year to play off it's whole Artillery on the Cardia, or Mouth of the Stomach, in a most violent, and sometimes tragical, Manner. In *December* it was very common and severe; in *January* the Symptoms were milder, and more dispersed over the Trunk of the whole Body, both internal and external; in *February* it's Severity was spent, and gave Way to the Measles. The Pain darted suddenly and violently into the Mouth of the Stomach, often caused cadaverous Looks and fainting Fits, or profuse Sweats, or universal Coldness, from it's great Agony. It had in it's Intervals or Remissions a quick, low, weak Pulse, pale or high-coloured Urine, broke or let fall a large or white Sediment, or sometimes a brown or reddish. After some Time it fell on the Bowels. Lastly, it moved to the Muscles of the Back, Hips, Shoulders, and Arms; then the Stomach and Bowels were easier. All Food, or Drink cold, gave a fresh Fit of Pain. Neither this nor the putrid Fever could bear Bleeding, much less strong Purging. Rhubarb, with a Drop of Oil of Cinnamon, or a few Grains of Species Aromaticæ, given twice or thrice a Week, and Dia-cordium at a Night, agreed well; or the Fœtid or Gum Pills, with Rhubarb, or Balsam of Peru, and Tincture of Snake-Root. In phlegmatic Habits Tinctura Sacra and of Serpentaria, did the same. To shift the violent Paroxysm from the Stomach, Fullers Fetus Stomaticus Corroborans answered well. It was a Month or six Weeks before they got quite well. In *February* slighter Pains of the Stomach were frequent, when the Measles became epidemic, but not mortal. They begun with a brisk Fever; if they appeared, and kept out regularly, the Sick soon recovered. But upon the greater Part they appeared, and disappeared as suddenly very often. When they first disappeared they fell instantly on the Lungs, and occasioned a Peripneumony of tedious and difficult Cure, by repeated small Bleedings, temperate, or rather cooling, Expulsvives, keeping warm, (not hot) tepid Drink, and emollient lubricant Pectorals. These Measles were of the same Sort as those fatal ones of 1735. They reigned till the Spring, and then disappeared, and were succeeded by a very healthy Summer. Scarce a Disease to be heard of till near the End of *September*, that the former Pains of the Stomach, Bowels, and Back made a third unwelcome Visit, attended with a Looseness and icteritious Disorders, Thirst, Feverishness, &c. This Illness spread to the End of *November*; several had as bad and different

different Symptoms as in 54, which held them from one to three Months; some looked as if in a deep Jaundice; all had an acute Pain in their Back, some on their Hips, Thighs, Legs, and Arms. Several Females had a Stoppage in their Water; some had the Vagina and Neck of the Uterus swelled and hard; others had the Neck of their Bladder thus affected, and often sick Fits; others vomited all they took; some purged violently, others were as costive; some melted in profuse Sweats, while the Skin of others was dry; some were thirsty, others not. The Pain was so acute that some slept none for several Nights; if they flumbered they were delirious and waking. Their Urine the same as in Intermittents. The Pulse sometimes high and quick, other Times low and slow. The Bark disagreed with all. At this Time several poor People had slow Fevers, which confined them five or six Weeks, tho' few or none of them died.

1756. *January* begun very windy and wet, and ended mild and open, Birds singing, and Plants springing as if it had been in *February*; which was a forward Month, stormy in the Middle, a Hurricane from West to East, and did great Mischief across the Middle of *England*. *March* begun fine, warm, and forward; Roads good, Ground rather too dry; from the 11th to the 21st, more variable; cold, showery, and frosty Mornings put a Stop to the Spring to *April* 7, when the Rains returned, and continued very cold and wet to *May* 15, with several great Floods and North-East Winds; from the 16th to the 27th, nightly white Frosts, which, with the great Cold, turned Grain yellow. From *June* 2 to *August* 26, a miserable wet and rainy Time. After *June* 17, it was a warmer Summer than 55, but not hot; a promising Harvest, Corn came at once, but not fair Weather to reap it. *July* was very showery, with much Thunder and severe great Rains, which made a bad Hay-Time. *August* 26 to *September* 25, a lovely Harvest Season, calm, fair, and warm, which was all the Summer and Harvest Season of this Year. The cold and rainy Season returned, and continued to *October* 21; after which the Air was severely cold, and constantly cloudy. The last Week of *October* was fair, calm, and mild, and a fine Seed-Time; much Corn in many Places of the North of *England* was very green still; and Corn that had been cut could neither be dried nor got home, but sprouted as it grew in the Fields. There were many Mobs in the Nation from Scarcity of Corn; Oats from 18 to 20 s. *per* Quarter, Wheat from 6 to 8 s. *per* Bushel, and all other Provisions dear in Proportion. A War with *France*, Trade dead at home, Money scarce, the Poor in great Want. Not that Corn was so scarce then, but rich Farmers, Cornmongers, Badgers, Millers, Distillers, and Swailers had hoarded it up. From *October* 21 to *November* 5, a hard Frost, which

continued, with some Relents, to *February* 15. The coldest Days were *November* 27, *December* 29, *January* 8, *February* 1, 2, and 4, when *Fahrenheit's* Thermometer stood at 18, 20, 16, 14, 14, 13. But during this Frost were Intermissions, with several wet, dewy, misling, rainy Days, that still kept the Earth full of Water; as *November* 17, 26; *December* 13, 15, 17, 18, 20, 21, 22; *January* 2, 10, 11, 13, 15, 17, 18, 19, 20, 21, 24, 25; *February* 4, 5, 6, 8.—During the Frost of 56 and 57, appeared some Inflammations, but gentle, and readily gave Way to the common Methods. A few mild Pleurifies: But in *December* and *January* more Quinsies, often attended with a severe Pain of the Head and Ear, which mostly suppurated and broke, and relieved that Pain, before which they were sometimes delirious. These were all cured by Bleeding, Laxatives, nitrated Medicines, proper Cataplasms, &c. and several by the Steam of a Decoction of rough Barley and Bramble-Bush Leaves.—In *December* 56 to *March* 57, a few Men on the Decline of Life were seized with a slow Inflammation of the Bladder and it's Neck; hence a sudden total Suppression of Urine, and a most excruciating Pain, resembling a Fit of the Stone; no Catheter could be got past the Urethra, nor could one Drop of Water be got off; their Agonies were inexpressible, and their Bladders amazingly distended, even to the containing three or four Quarts of Urine. Such as were freely bled at first, and cooling Laxatives given them in a small Quantity, and kept much in a tepid emollient Bath, and had repeated nitrated, emollient, anodyne Glysters injected in small Quantities, so as they might lie long in the Rectum, they generally did well. If this Course was neglected they sunk under it.

1757. From *February* 12 to 28, a lovely Spring. To the Middle of *March* very cold; wet, and snowy; on the 15th, the greatest and most destructive Hurricane that we have had since 1705; then a terrible Time of Rain, Snow, and Cold to *April* 4; good to the 10th; then bad again to the 21st; an excellent Time to *May* 9; showery to the 14th, very good and dry to *July* 30. 55 and 56 were the rainiest, wettest Years remembered; both the Wheat Seed-Time in 55, and the Spring Seed-Time in 56, were exceeding rainy and bad; much Corn could not be sown, and much that was sown rotted, died, and was lost in low, fenny, marshy, and wet Grounds. *April* was mostly cold, and very backward; from the 10th to the 21st, all wet. A very unpromising Crop; yet the Month ended well, and the Spring came on apace. A warm Season to *May* 9, which hastened forward Grass and Corn, then cold and dry to the 30th; fine Rain to *June* 2, and little more to the 14th. Before this we had a dry, burning-hot Time, very uncommon here; Grass was scorched up to *July* 29, which brought
Rain.

Rain. *August* 15, fine Harvest Weather, only the 3d and 7th rainy; after that it was very wet, but windy and drying, and Corn pretty well got. To *October* 6, a most lovely Harvest, like Summer, and great Plenty of latter Grains. *October* 5, 11, 15, 16, rainy. *November*, all a Summer Month, except seven Days some little Rain. After *December* 15 came Snow and gentle Frosts; on the 25th, a great deep Snow. This Year Dearth came to it's Height, when Wheat rose from 5 to 10 *s.* per Bushel, Oats from 15 to 30 *s.* per Quarter, and one Market-Day they were 33 *s.* All other Provisions advanced proportionably in their Price, Beef from 2½ *d.* to 5 *d.* per Pound, Mutton 4½ *d.* and Potatoes from 6 *d.* to 14 *d.* per Peck. The Poor were in great Distress, and many starved. The Nation in several Parts rose into Riots and Mobs, to seize Corn, Flour, or Meal in Markets, Store-Houses, or Carriages on the Road, or where-ever they could catch or find it, to relieve their pined Children and Families. By a partly artificial Famine, from rich Farmers hoarding Corn to prolong and keep up the Dearth; and to add to the Mischief, Millers turned Badgers, bought and monopolized Corn at any Rate; got *French* Stones and Boulting Mills to grind their Flour, whereby, if there was no Fraud committed, they ground down the Brans to Meal, and sold it to the Poor for Bread, tho' there was nothing but bare dry Wheat Husks in it, destitute of any Kind of Nourishment. And tho' the King, at the Meeting of the Parliament in Winter 56, warmly recommended to them to provide for the Poor, yet they, not feeling the Poor's Wants and Necessities, (tho' the Army, Manufactures, Agriculture, and Colonies, which depended chiefly upon the Poor, and they should have been particularly provided for against all Wants) only prohibited the Exportation of Corn, and the distilling of Grain into Spirits, for two Months, which answered little or no Purpose. The Bounty-Money that in Time of Plenty was allowed on Exportation, should now have been given for the Encouragement of the Importation of Corn. Distillers bought up Grain very fast all the two Months. The Vermin and Caterpillers of Badgers, Millers, Swailers, and Forestallers of Corn were not forbidden nor suppressed; nor Farmers and Hoarders were not obliged, under severe Penalties, to thresh out and bring their Corn to open Market, and not to set it up in their Corn-Chambers or Warehouses before the Market was served, and have appointed proper Officers to have seen these necessary Laws put in Execution. Malt, tho' sold from 40 to 46 *s.* per Quarter, yet still it was made in Plenty, not as in the Famine of 1316, when Distilling was not known; yet Malting and Brewing was strictly forbidden, even in the King's Household, and this Law was as rigorously executed; but instead of all this, when the starved, perishing Populace on
the

the Roads, or in Market-Towns or Houses, seized Corn, and often paid in Hand an extravagant Price to the Owners or Sellers, or broke the *French* Boulting-Mills, wherein Millers ground and sold meer Husks of Wheat, Pease, Rye, and Barley together for Meal, and broke open some Store-Houses of Corn and Meal, they were apprehended, incarcerated, and punished, not as tho' Necessity, but Wantonness and Contempt of Authority had prompted them to it, and the Country obliged to make all good again. But this tended not to strengthen his Majesty's Army, Navy, or Colonies, by bringing the Starved to Life: Nor were the rich Oppressors and Extortioners so ready to serve his Majesty or the Nation in any of these Capacities.—In *March* and *April* 57, appeared several Intermittents, without shivering or shaking, yet the Fit begun with some Coldness, often attended with a severe Pain on one Side, Stomach, Bowels, or Back, with great Weakness or Faintness till the Sweat broke out and relieved them. They were often very backward to sweat, which made the Fit go slowly off, and often hung on till the next Fit came; but Sweat was easily procured by a Four-ounce Julip, with Salt of Hartshorn from ʒ to ʒss in a Draught or two of white Wine Whey, and drinking small tepid Liquors plentifully after; this soon took off the Fit, but left a great Weakness, tho' the Body was no way wasted. Their Urine was as in other Agues. After a few Fits the Disease was soon carried off by the Bark, proper Salt Draughts, and Bitters. If the Body was costive, a little Rhubarb, with the Bark, succeeded better; but if the Body was cachectic, a few Doses of Calomel and Rhubarb given first, made the Use of Febrifuges more successful. With *April* set in a mild Kind of Small-Pox, neither very epidemic nor severe, few died. Some were inoculated and did well; but as the Weather in the latter End of *June* and *July* turned warmer, they put on worse Symptoms, and were more severe and dangerous, as I am informed, having been much abroad and seen none of them. They were all of the distinct favourable Kind. Excepting the few above Diseases, the two last Years were very healthy in the general; yet some Parts of *Yorkshire*, *Cheshire*, *Worcestershire*, and the low Places of *Leicestershire*, &c. were sorely afflicted by a slow, malignant, putrid Fever, which carried off very many. In *October* the same Fever set in here, and raged fatally all Winter and Spring, yet neither so rife nor fatal as in 41; it had scarce any new Symptoms attending it, therefore required no different Method of Treatment. It raged fatally before in several Towns at a Distance, where it went by the Name of the Miliary Fever, and the hot Regimen added not a little to it's Mortality: It chiefly affected the Poor, who had been half starved in the late Famine.

1758. A great Frost finished last Year with a deep Snow. When *January* begun this Frost and Snow went, and some Days Rain succeeded; then with a warm, moist Air; a small Frost oft, without Rain or Sun; from the 17th to the End, good. *February* was a very wet, windy Month, which continued to *March* 22, when it rained, snowed, and misled the whole Day; on the 23d was a great and general Flood; and to the End, clear, hot, dry, Summer Weather. *April* had some clear, warm Days, but mostly dry and cold, and great, hard Night Frosts. From the 22d to *May* 26, very hot, except frosty Evenings and Mornings. The Drought was very severe to the 26th. *June* begun and ended dry; some Rain from the 12th to the 18th. *July* was a cold, wet, growing Month; a bad Harvest to the 23d; great Rain on the 30th. *August*, fine Harvest Weather, some hot Days, all calm; from the 24th to *September* 4, rainy; the 6th and 8th, showery; and from the 17th to the 22d, the same. *October* 7 to 12, very rainy; from the 12th to *November* 3, all wet and rainy; the 7th, 19th, and 20th, rainy. *December* was an extraordinary warm, calm Month, and continued to *February* 23 more like Summer than Winter, short Days and moist Air excepted. There were only five frosty Nights the whole Winter, and never above two together. A good deal of Sunshine and warm Weather all Winter. This was a healthy Year in the general; only in the Harvest was a very sickly, mortal Time among the Poor, of a putrid slow Fever, which carried off many: No other Epidemics or Endemics stirring, only one Epidemic Catarrh, which broke out in *November*, and made a sudden Sweep over the whole Kingdom; it was attended with a severe and almost incessant Cough and catarrhus Fever. In some it turned to a Peripneumony, and killed sundry aged asthmatic Persons, and such as had a mal Formation of the Thorax. There was nothing peculiar in it's Method of Cure.

1759. From *February* 23 to *March* 30, a miserable, wet, rainy Season; thence good Weather to *April* 6; but from that to the 14th, a shocking Time of Rain and great Floods. *March* 16, *April* 8, 10, 12, all great Floods; the 10th exceeded all we had in the last 19 Years. From the 12th to *May* 5, a fine Spring and Seed-Time; then seasonable, refreshing Showers to the 15th; then a Drought to *June* 3, which brought fluctuating moderate Showers and Rains. To the 12th, a fruitful Season for Grass and Corn; but Night Frosts in the latter End of *April*, and all *May*, killed most Blossoms on Fruit-Trees; hence very little Fruit this Year. In *February* began, and continued till *May*, violent obstinate Pains of the Stomach and Belly, often attended with a brisk Fever, Costiveness, and Thirst, Loss of Appetite, Indigestion, and Vomiting; restraining Laxatives were:

were of most Service. In the Spring, Summer, Harvest, and Beginning of Winter were many putrid, malignant, sore Throats among Children, much of the Nature of those in 41. There had been some rare Stragglers of them ever since that Time, yet now they became more frequent and epidemic. This seems to be a new fatal Plague among Children. *June* 12 to the End, fair; only the 23d wet. *July* 1 to 10, fair, good, healthy, and growing; showery to the 21st; then an excellent Hay-Time to the End. *August*, rainy to the 5th, fair to the 17th, showery to the 24th. *September* 10 to 20, and from the 23d to the 28th, fair to *November* 9; showery 9, 10, 12, 23, 25, 27; rainy *December* 2, 12, 25, 29; hard Frosts from *November* 13 to 23; and from the 28th to *December* 7; and from the 11th to the 20th; Snow *October* 19, *November* 23, and *December* 12.

1760. *January*, daily hard Frost to the 20th; some Snow 4, 5, 13, 21, 22, 23, 26, 29, and 31; Rain 5, 15, 22, and 29, and *February* 1, 13, 14, 15, 20, and 26. *March* was a very dry Month, no Showers nor Rain, only a little on the 20th and 25th; white Frosts from the 20th to *April* 1; all dry Weather to the 24th, and from that to *May* 4; then Rain to the 10th, and on the 18th, 19th, 20th, and 29th. *June*, fair to the 14th, and wet to the 27th. *July*, showery the 9th and 25th. An excellent Hay Harvest after *June* 27. *August*, fair to the 3d; wet, showery, and rainy to the 14th; little more Rain, but on the 19th and 23d, and *September* 2. From *June* 26 to *September* 16, only 28 Hours small Rains or Mislings; a great Drought; latter Grass very scarce; Hay 50 s. per Tun; Horses and Cattle sold at very low Prices. From *September* 16 to 30, fell 70 Hours Rain; in *October*, 106 Hours; in *November*, 118 $\frac{3}{4}$; in *December*, 80 Hours. Very little Frost or Snow this Year; but a miserable wet Time after *September* 14. A rich, healthy, and plentiful Year, except for Hay and Eddish. No Epidemics.

1761. Only 37 Hours Wetting in *January*; no Snow. *February* had 82 Hours Rain, Snow, and Wetting. *March*, wet to the 8th; dry to the 11th; the 12th, 18th, 19th, and 26th, all wet. *April* 8, 10, 12, and 13, seasonable good Rains; and *May* 2, 5, 10, 12, 16, 18, 20, 21, 23, and 26, all refreshing Showers and Rains. *June*, some fine Dews, Mifling, and few Showers. *July*, 17 $\frac{1}{2}$ Hours Wet; *August* and *September* had only 61 Hours Wet. The Summer of 60 was a great Drought, much Grain, but small and good. Hay scarce and dear, from 50 to 55 s. per Tun, new Oats 13 s. per Quarter, Wheat 4 s. per Bushel, Barley 16 to 18 s. per Quarter, and Malt 28 s. From *September* 15, 1760, to *November* 14, a most miserable, wet, rainy Season, scarce four Days in nine Weeks fair;

fair; an extraordinary mild Winter, a good early Spring, a dry Summer, without any Loss from the Drought, (the Earth being full of Water from the former Rains) except for Hay and Eddish. Great Plenty of all Sorts of the best Grains and Fruits. The Weather was good till *September 14*; then, like the last Year, an uncommon wet Season returned, in *October* especially, and continued to *November 2*; then a good open Winter, with very little Frost or Snow, the Ground was a Bog or Marsh; no Epidemics, except a shocking Small-Pox and some few slow Fevers; many Hectics, yet a general State of Health prevailed.

1762. *December, January, and February* had only 112 wetting Hours; only *February 2* had a terrible Storm of Snow, and several People were lost in it. *March* began with several small Snows, and had much Rain in it. As the Winter was mild, the Spring was severely cold. *April* had 38 Hours Wet, yet the Earth was full of Water. *May 1* to *14* had 18 Hours Rain; from that to *July 7*, not one Drop of Rain or Showers, but rich Morning Dews. From the Wetness of the Earth and Heat of the Sun, we had a very clear Drought; Wind mostly East or North-East; the Mercury stationed between $\frac{8}{10}$ and 30, and seemed frozen to the Tube, the Grass was burnt up, little Hay and dear, new Hay 50 s. per Tun, old from 3 to 4 l. In many Places Oats, Pease, and Barley were but an indifferent Crop; Wheat, the best we have had for 20 Years past; yet Millers, Swailers, and Badgers attempted to make an artificial Dearth, as in the Famine of 57, when many of them got Riches, and starved the Poor. They proposed buying and securing all Grain, both that growing and the old Stock of Wheat, at 5 s. per Bushel, and directly selling it out at 8 s. and instantly raised Wheat from 4 to 8 s. per Bushel; Oats from 13 to 23 s. per Quarter; and Malt from 25 to 38 s. per Quarter. The Drought continued till *July 7*, but did not the Hurt that was expected, only Grass and Hay suffered; other Grain came on surprizingly after the Rains, which lowered the Markets a little; after the Drought, 56 Hours Rain and Wet. In *August*, great Plenty of Clover and Eddish, 75 Hours and a Half Rain here. In *September*, 20 Hours; in *October*, 97 Hours; in *November*, to the 13th, 46 Hours. No more Moisture, Misting, or Rain to *February 1*, 1763. It was a cold, rough Harvest; a calm Winter to *December 10*; then, to the 23d, great nightly Frosts; but *January 24* to 29, one continued hard Frost. *April 29* and *November 19*, great Thunder and Lightning; a dark, cloudy, foggy, cold, dull Winter. In *February*, 68 Hours Rain and Snow; a cold Month. On the 18th, a Flood from the great Rain and a deep Snow; on the 14th and 15th, a hard Frost. Little more Rain to *May 1*. A Spring sometimes very cold, other Times unseason-

ably warm. In *April* and *May* 62, an universal Catarrh seized Thousands of Souls in a Day, and continued most of the Summer, wherein, and in Harvest, prevailed bloody Fluxes and Loosenesses, several slow Fevers, and some Intermittents. The Winter very healthy. In the Spring many inflammatory Diseases, Catarrhs, &c. Few Apoplexies, Palsies, Dropsies, or Jaundices; the Prices of Grain fell much, but Animal Food rose greatly. Near the Middle of *August* 62, when the Harvest was almost over in the Center and South of *England*, and about half of it further Northward, came some fine Rains, which made Plenty of latter Grass; but wetted not the Ground to any great Depth before *October*, which was a very wet Month, and on the 26th shocking great Floods in the East of *England*. From that Time it grew fairer, and the Warmth was various. A settled Frost sooner than usual at the Middle of *November*; but sunny and pleasant, followed by very dark, calm Weather; open and mild till near *Christmas*, when a very hard settled Frost began, cold and without Sun, yet calm.

1763. After this, great rimy Mists, for many Days together, loaded every Twig of a Tree with an unusual Quantity of snowy Rime. This Frost was so sharp and long, that it froze over great Rivers, as the *Severn* and *Thames*. No Rain from *November* 10 (except a little Snow on the 15th, and some Showers on the 8th, 9th, and 10th) to *February* 1, all very dry. Frost from *December* 10 to *January* 29, calm and cloudy; general Health. With the Thaw in *February* came in, and continued all *March* and *April*, inflammatory Diseases, Coughs, and Catarrhs, Pains in the Stomach and Side, Rheumatisms, and some few slow Fevers, not epidemic; otherwise a tolerable healthy Time. In *March*, much Thunder, Lightning, and Hail in the South; but not much Rain, and none after the 13th. A cold Month till near the End; Diseases the same as in *February*. *April* was a very dry Month; little Rain from *March* 4 to *April* 28. *April* ended, and *May* begun, excessive cold, and had much Rain, Snow, and Hail; Catarrhs rise and severe. *May*, much North and East Wind; most Nights had white hoar Frosts, which spoiled much Blossom. Here we had Small-Pox, Measles, and Rash Fevers. *June* had more and greater Thunder and Lightning than ordinary; Plenty of Grass after the 25th. This was the most remarkable wet Year I can remember; for from *June* 25 to *February* 12 following, were 747 Hours wet, misting, or rainy; hence much Corn greatly damaged in Harvest, and all of it got with great Difficulty: The Hard-Corn Seed-Time was very bad. The preceding rainy Years in my Journal were 1735 and 1755; but this Winter exceeded both. *November* had 91 Hours Wet; *December*, 253½; and *January*

January 121 Hours Rain; yet the healthiest Year I have observed during 45 Years Practice, which probably happened from the frequent Changes, Heights, and Shifts of the Wind. The Small-Pox and Measles in some Places; no inflammatory nor putrid Epidemics; but a most fatal Winter over all *Europe* to all aged People above 100 Years old. Barometers were most variable, they fell or rose an Inch in six Hours; Wind and Weather were as changeable, almost daily Frosts.

1764. This Year begun very wet, being the Conclusion of a very rainy Season that had now lasted above eight Months; the Wet began to abate about the Middle of *January*, but did not cease till the Middle of *February*, and a floody, dirty, disagreeable Time it was. After a few Days fair and fine, came a Frost for near ten Days, which, with a short one last *November*, was almost all there was this Winter, and was too little to lighten the Land, made so stiff with the Wet; the Seed-Time was dry and fine, sometimes cold, at others forwarding. The first Part of Summer was fine, with sufficient Showers to keep Things growing. In Hay-Time there were several wet Fits for a few Days, in which some Hay was got very ill; but a great deal was well got in the dry Weather between, and there was a good Crop. The last wet Fit was in the Middle of *August*, just at the Beginning of Harvest; but the Season that followed was as fine as could be. Grain was got in very well; the Crops of Beans and Pease were good; but white Corn was thin, and more so in the North of *England* than the South: The Winter Corn had been so drowned last Winter, no Wonder that it failed, but the Failure of Barley was more unexpected; I suppose it must be occasioned either by the Strength of the Land having been washed away, or by the Stiffness of the Fallows. The Autumn was very fine, and chiefly fair; yet with Showers, which put the Ground into fine Order for Wheat Seed-Time, and a better Season for it there could hardly be.—The greater Part of Winter was not severe; the latter End of *November* and Beginning of *December* were dark; then stormy, and the latter Half frosty, but not a settled one.

The first Half of *January*, 1765, there were daily light Rains, and then mild till near the End; then a severe Season began, first of sharp tho' broken Frost, which was followed by a wet and floody Season, till towards the latter End of *April*. The Month of *March* was also almost continual Winds. This was a bad Seed-Time, especially on Clay Land, which was at first so wet, and, when dry Weather came on, so very hard and rough, that the Seed could hardly be got in. The last ten Days of *April* were unusually mild and cloudy; a North-East Wind; then the Weather set in as dry as it had been wet before: The Wind was chiefly

in the Northern Points all Summer, and the Season in general cold; yet with some very hot Fits at the Middle of *May*, End of *July*, and the End of *August*; the Surface of the Ground was exceedingly burnt, and Grass very scarce; Rain came very seldom and very light; on *June* 14, a moderate Rain helped the Grain very much forward; and some considerable Rains in the Middle of *August* made Grass come finely for some Time; but the dry Season returning, the Ground was parched again almost all *September*. The Summer was excessive hot all over *England*; but not equally so all over *Europe*, for in *Italy* they made as great Complaint of Rains and Deluges all the Summer, which flooded the Country and ruined their Crops. The Hay on the early-laid low Lands was pretty good; but on the late-laid and high Lands it was very thin. The first Part of *October* had much Rain, and the latter Half not a little; but not more than the dried parched Ground could carry off: This made the Grass spring, tho' too late to be in great Plenty; and the Season being afterwards dry, chiefly mild, calm, and finer than usual at that Time of the Year, it carried on the Winter very well; Hard-Corn Seed-Time was good, and the dry Season having made the Fallows in fine Order, it came up well. There were some Frosts in *November* and *December*, but not severe; till at last a very sharp one set in the last four Days of the Year. During the last two Years there were no Epidemics stirring here besides Children's Diseases and some Catarrhs; only in large manufacturing Towns the great Dearth of Provisions gave Rise to former slow putrid Fevers, and carried off many of the starved Poor; Wheat 6 s. 6 d. per Bushel, Barley 26 s. per Quarter, Malt 38 s. per Quarter, and Oats from 16 to 23 s. per Quarter; Beef and Mutton 4 d. per Pound, and Butter from 7 d. to 10 d. per Pound. Instead of our old Prices, Wheat 2 s. 6 d. Cheese from 12 s. to 18 s. per Hundred, now 40 s. Bacon from 4 d. to 8 d. per Pound, and so with other Provisions, &c. All Fowls above double Price: But are Labourers Wages raised proportionably? Are they not rather reduced, especially in Manufactories? In the Country, Servants or Day Labourers Wages are raised, but not proportionably; for what can 6 or 7 s. per Week procure now for a married Couple and six or seven Children to live upon, in such a Dearth for Necessaries? The Causes of which are obvious, as raising of Rents and doubling Assessments; tying up Tenants from plowing their Lands, inclosing Commons and Town-Fields, and turning them into Pasture Land; turning the best Arable Land in *England* to Feeding Grounds; letting too large Farms, as one or more Parishes together, all formerly Corn or Corn-Ground, which kept well 1 or 200 Families; adding Farm to Farm, as one Man taking a whole Pa-

rish

rish or whole Town-Fields, which a Shepherd and his Dog are sufficient to keep; the great Consumption of Corn by Distillation, a Thing which our antient Forefathers knew nothing of, when *England* was a *Roman* Grainery; the feeding Draught-Horses with Corn, when formerly all Draughts were drawn by Oxen, which were allowed no Corn by Law; the vast Exportation of Corn, and the Drawback allowed, whereby Corn-Factors can sell at a cheaper Price than they buy.—The Country in general was very healthy, Children's Diseases excepted. In Summer several Hæmorrhages, by spitting and vomiting. In some Parts the putrid Fever roamed about from Place to Place in the highest Degree of Putrefaction, so as several dead Bodies were obliged to be buried the same Day they died. From *November* 1765, to the second Week in *April* 1766, a very dry Winter, and no Rain till the second Week in *April*; many small Frosts till *February* 11, 12, 13, when fell the deepest Snow we have had in this Age; at several Times, and different Places; on the Northern *Yorkshire* Moors, I found it 27 Inches deep on a Level; but in Drifts in some Places it was many Yards deep; a hard Frost all the while, which continued several Weeks. The Snow melted insensibly without Rains or Floods, which was drunk up by the thirsty Earth, and soaked it to a Marsh on the Surface. From the second Week of *April* to the first of *August*, no great nor heavy Rains or Floods; but being gentle it went into the Earth, and kept the Ground very wet. *August* and *September* were pleasant Harvest Months, tho' the first Half of *September* was very cold, wet, and rainy on the Eastern Coast. An uncommon Quantity of Grass and Hay this Summer; Corn looked well, and promised an uncommonly rich Crop of all Sorts of Grain; but in some Places answered not the Expectation; some Wheat was spotted, some looked fair, fine, and good, but proved very indifferent on handling. Barley failed in some Places; Oats, Beans, and Pease were very fine Crops; but this lessened not the Prices of Provisions, which continued very high, as they had done several Years before, without any Appearance of being cheaper; but the Government, and they only, may put a Stop to it when they please. The wet Spring and Summer weakened both the volatile and fixed Principles of all Mineral Waters, except such as were loaded with Muriatic or Sea Salt, as *Harrogate*, which did not heat the Body so much, and purged better as it's Salts were more diluted, tho' much weaker of the Phlogiston: But such as know how to examine Mineral Waters can tell to a Certainty how much at different Seasons they gain or lose of their Principles by Drought or Rains, whilst Chemists, by Fires and Furnaces, can only tell of their fixed Parts, which are also thereby altered. The wet Spring and Summer continued to the Beginning of
August;

August; the first Week whereof, and the last Week of *September*, were the hottest Seasons we have had for several Years; it's Excess was fatal to several People and Horses upon the Roads, and in the Fields. These two Months were the best Harvest we have had for many Years, and all Sorts of Grain well got, except in the North of *England*, in *Cumberland* and *Westmoreland*, where the Harvest is very late, tho' we were told in the public Papers, a Fortnight before it began, that it was very early, and well got; but this was contradicted by the same Papers in the Beginning of *October*, * when Farmers began to complain of the Want of Rain to fit the Ground for sowing and to bring on Eddish; but their Fears were seasonably dissipated by a plentiful Rain on the 6th, &c. The excessive Price of Provisions caused shocking Mobs and Insurrections in several Parts of the Nation, which had a terrifying Aspect; but his Majesty's Proclamation to stop the Exportation of Wheat, it is hoped, may remedy the Evil, and make his Subjects easier. I think there seems a very plain Method laid down for lowering the Prices of Provisions, in a late Pamphlet, called *An Address to Parliament in Behalf of the starving Multitude*, by the *Old-fashioned Farmer*.

* We had pretty much Rain in *November*, but *December* was a very wet Month, having 140 wetting Hours. The Barometer was remarkably low on the 21st and 22d; but higher on the 27th and 28th than ever I observed mine in 40 Years, viz. within two Decimals of 31 Inches; tho' we are told, in a public News Paper from *Carlisle*, that the Barometer in *England* never rises above 35, i. e. 30½, yet the Winter hitherto was pretty warm, and went on very favourably till *January* 1, 1767, which was the stormiest Day I ever saw of Wind, Snow, and Hail. About Midnight that Night happened such a Blast of Wind here for four or five Minutes, as the oldest Man in *England* never heard the like; had it lasted half an Hour the strongest Buildings in *England* could not have withstood it. The Storm of Wind continued all *Friday*, but not so high; nor was the first Blast so terrible abroad, tho' from the News we find it went over all *Europe*, and a shocking Storm of Snow at the same Time, with much terrible Thunder, Lightning, and Hail all along the Coast, and a most severe Frost withall, so as all Liquors (Spirits excepted) froze in Lodging-Rooms. The Severity of this Cold was such, that the best Thermometers stood 3 Degrees below the Frost of 1740, and 2 below that of 1709; as was the Snow, which was here upon a Level at 30 Inches; in *Northumberland* said to be four or five Yards deep, and in some Places, where drifted, 14 Yards deep; in a Valley in the South I read in the News there was a Drift 40 Fathom, or 80 Yards deep. This Snow was much more general in *Britain* and all the Northern Countries, than that in *February* 1766. The high Wind the 2d Instant caused terrible Losses at Sea, and also of many Lives. Great was the Loss of People starved to Death by Land, and much Cattle and Sheep lost in many Places. This Frost and severe Season continued to the 22d Day, when the Snow was mostly carried off in four or five Days, with a calm, (Wind southerly) mild, soft Spring Season to *February* 7.—We had here a very great Flood, whereby the River rose to within 12 or 14 Inches of the great Flood on *April* 11, 12, 1759.—Many Earthquakes this Winter in several Places.



METEOROLOGICAL OBSERVATIONS.



METEOROLOGICAL

OBSERVATIONS.

P R E F A C E.

M*ANY* ingenious Gentlemen, in different and distant Places at home and abroad, have kept Journals of the Weather, Air, and it's Temperature, and their monthly and yearly Quantities of Rain; several Abstracts of all which I have perused, and computed at monthly Mediums between the highest and lowest of Mercury, or Spirits in their Tubes, or Rain in it's Receiver; but these being fitter for Speculation and Amusement than any useful Purposes yet known, though, if collected, compared, and improved, might afford some not contemptible Hints, therefore such Journals should be deposited in some public Museums where the Curious might have Access to them.

It is needless to mention the Constructions of the Tubes, all being supposed to be perpendicular, nor their sundry Diameters; only the Scale of the Barometer I used several Years, had it's Decimals two Tenths below the 28th Inch, therefore both it's monthly and yearly Totals run proportionably higher. We must not expect that the Height of the Mercury in all Barometers, in sundry and different Places, Stations, Situations, Countries,
Q and.

and Climates, without the Tropic, should be exactly alike at the same Time, except the Pressure of the Air could be exactly alike in all, unless it was invariable, both without and between the Tropics; for the more it is compressed, or the higher it's Column, the heavier it is. The higher the Column of Air is above the Surface of the Earth and Sea, the more thin, dilated, spungy, and light; therefore at the Foot of Snowden-Hill, (which is 1240 Yards high) the Mercury stood at $30\frac{1}{2}$, at the Top $26\frac{7}{10}$, so the Mercury fell one Decimal every ten Yards. Mr. Derham says it fell one Tenth every 32 Feet perpendicular. Though the Distance between London and Paris is not great, yet in the former the greatest Height of the Mercury is 30 Inches $\frac{3}{8}$; it's lowest, $28\frac{3}{10}$. In the latter it's greatest Height is 28 Inches $\frac{4}{10}$, almost our lowest; it's lowest is $26\frac{4}{10}$; near two Inches Range in both. But between the Tropics the Weight of the Air scarce varies at all; which Dr. Halley imputes to the Gentleness and Sameness of the Wind; but perhaps in other Places other Things may contribute to the Variation of the Weight of the Air, as ascending Vapours, Weather in adjacent Countries, Cold from the Poles, Heat from the Equator, sundry Phases of the Moon, &c.

Yet, after all these, we are left as ignorant of our own Seasons as Foreigners; for we find no Proportions assigned between

our

our wet and dry Weather, nor of our Extremes between Heat and Cold in different Seasons, nor between different Years; nor of the several Temperatures of the Air at sundry Times of the Day, and at sundry Heights or Distances from the Earth; nor of the Strength and Powers of the Atmosphere in sustaining Loads or Weight; or whether our Air is healthier now or formerly, &c. These, and several useful Things, were left to further Inquiries.

SOME

SOME SHORT

METEOROLOGICAL OBSERVATIONS.

THE small Difference of the Range of the Mercury in the Barometer, or of the different Levity or Gravity of our Air between one Year and another, considering our Distance from the Equinoctial Line, is surprizing; and also considering the seeming Inequality and Uncertainty of our Weather and Seasons, it had been quite incredible, without a sure Air-Gauge to be depended on. For by comparing several Journals of Barometers, carefully kept in different and distant Places, (especially here and at *Plymouth*) the greatest and longest Range of the latter kept, at a Medium, from 2 Decimals under 28 Inches for 21 Years. It's greatest two Years Range was in 1740 and 41, 13,792; and it's shortest two Years Range was in 1734 and 35, which was 12,124, viz. 1648 Odds, scarce a ninth Part. The greatest Range of the Mercury here was in 40 and 41, which (from the Lowness of the Scale) made 18,953; and also because the Mercury rises and stations considerably higher here. The two Years of the last Range was in 51 and 55, 12,839, near one Third Difference. Both the last Years were Years of Scarcity.

Taking a Series of the Range of the *Plymouth* Barometer for 21 Years together, the Range is greatest in *December* and *January*, viz. 24,273; and the shortest Range in *June* and *July*, viz. 21,576, or 24 to $21\frac{1}{2}$. The Spring Months exceed the Harvest, as $34\frac{1}{2}$ to 33. The six Winter Months Barometer exceed the Summer six Months, as 69 to 65. *January* had the greatest Range of all the Months, and *September* the least, being near as 122 to 106. 1742 had the longest yearly Range, viz. 6979; and 1735 the shortest, viz. 6060, above 69 to 60. The whole of 21 Years of the *Plymouth* Barometer, taken by the Medium as above, was 135,749. The three longest Months here were *January*, *May*, and *October*; they exceeded *February*, *April*, and *November*, the three shortest, as $42\frac{1}{2}$ to $39\frac{1}{2}$; the 29 Years of the former three being 42,436; of the latter, 39,551. There is a considerable Difference between the Range of these two Barometers in the same Year; for in 1737 the Range of the

R

Mercury

Mercury at *Plymouth* was 300 more than in 36. Here the total Range of 36 was 100 more than in 37; if the Difference rose not from the former being computed Totals from the Medium, the other real Totals by Addition. At *Plymouth* the Ranges of 37 and 38 were pretty near equal; but here 38 had near 300 less than 37. At *Plymouth*, 38 and 39 were pretty much alike; but here the latter had near 500 more than the former. At *Plymouth*, 40 had 400 more than 39; here the Range of 40 was 1100 more than 39. At *Plymouth*, 40 and 42 had each of them above 500 more than 41; here 40 and 41 were equal, each of them had 250 more than 42. At *Plymouth*, 42 had a larger Range than 43; here it was the contrary. In both Places 43 was greater than 44, and had more than 45. Here 45 was less than 46, but it was more at *Plymouth*; yet that had less than 47 or 48. Here 46 exceeded 47 and 48, and was next to 44: But in 23 Years of our Barometer here, 1755 was the least, wherein the whole Year's Range was only 5669.

If such as oblige the Public with true monthly Totals would do it, not by an arithmetical Mean, such as I was forced to take, but by the Sum of the Heights each Day, divided by the Number of Days, such a Mean might convey to some a better Idea than the total Sum; to which might be added the chief Quarters and Heights of the Winds; for upon Trial, there will sometimes be found a considerable Difference between computed and real Totals. E. g. the true Totals of the Barometer here, for *February* 47, were 730; the computed were 672. For *June* 48, the added Totals were 673; the computed 726. For *December* 48, the one was 610; the other 480. But such great Differences seldom happen, except when there chances to be a very high Glass, and none very low, &c. *contra*; but they oftener come pretty near together.

The true first 19 Years Totals of the Barometer here, were 164,551; the computed were 160,901; both in the same Glass, not shifted or varied. Nor do these two Barometers agree in their highest and lowest Stations on the same Day for 13 Years; for in 312 Days of that Time they were the highest and lowest on the same Day only 76 Times; and there was a Day between their Rise and Fall 58 Times, and two Days between them 24 Times; in all 158 Times, or near one Half. On the other Half of those Days they differ widely from 3 to 20 Days, or more. At some Times on those Days the Mercury was highest in one Place, and lowest in the other. But the Wind differed still more, and rarely agreed in one Point; sometimes they were directly opposite, being South or West

in

in one Place; in the other, North or East. In comparing the second Thermometers from *November* 1, 1734, to *July* 1, 37, in 64 Days their highest and lowest happened only eight Times on the same Day, and nine Times at a Day between, and five Times at two Days Distance; on the other 42 Days they differed as widely; so that the great Agreement of Winds, Weather, and Glasses in this Island seldom holds good on a fair Trial. Glasses can but indicate the State of the Weather for a short Time; and even then the Wind, and it's Height, and Temperature of the Air, must be taken into the Account, or the Barometer will be of little Use; for a North-West, North-East, or East Wind raises or keeps up the Mercury, even in rainy Weather; and a South, South-West, or South-East Wind lowers it in fair Weather: Intense Colds also give it a greater Range; hence *January* (generally the coldest Month in the Year) has the greatest Range; and *July* (which is commonly the hottest Month) has often the least Range. And tho', in very hot, calm, and clear Weather, the Mercury rises in the Night, yet it falls in the Heat of the Day, tho' there be no Air at the Top, and so is a Kind of small Compound of both Barometer and Thermometer. In small narrow Tubes the mutual Friction of the Glass and Mercury prevent the quick Ascent and Descent of the latter, tho' the Mercury attracts it's own Particles more than the Glass, which makes it's Surface convex; but striking on the Side of the Glass, or Frame, destroys this Friction; otherwise the Middle of the Mercury may either rise or fall more than it's Sides. The Mercury falls as well for high Winds, Hurricanes, and tempestuous Weather in the Place, or near it, as for Rain; and in an unsettled State of Weather the Mercury rises and falls by Jirks, and is not to be depended upon; the same it does on the Heights and Shifts of Winds. Thus we see, tho' the Barometer is a very useful Instrument, yet it is not extensively so, only for a few Days or Hours often, but not always. Nor does it indicate the State of the Air and Weather in all Places; for in the Seat of the variable Winds, *viz.* in the Latitude of 45 Degrees and 10 Degrees on each Side, is the great Variation of the Height of the Mercury, for it's Rise and Fall equally decrease towards the Poles and Equator; so that within the Tropics, and near the Polar Circles, it stands at near three Tenths of an Inch, at 15 Degrees. North or South from the Line, it ranges one Inch; at 30 Degrees, two Inches; at 45 Degrees, three Inches; at 60 Degrees, two Inches; at 75 Degrees, one Inch; at 81 Degrees, not 1-4th of an Inch. Thus far in an ordinary Course of the Weather; but, in great Agitations of the Air within the Tropics, there must be a much greater Depression of the Mercury.

From Gleanings of Thermometrical Tables, kept and collected from several Parts of this Island, upon the whole there appears a near Equality of the Temperature of the Air, which has a Mildness in it seldom inviting us to the Cool of the Grotto, to Caverns, or trellised Windows in our Rooms in Summer, nor to Stoves, Bagnios, or Furs in Winter, having rarely such scorching Heats or freezing Colds as are common near the Line or Poles; for, during the 21 Years of the *Plymouth* Journal, their Thermometer shews a great Equality among the Years. 1733 being the warmest there, it's total Range, at a Medium, was 15,788; and 40 the coldest, it's Range was 19,239, near one Sixth Odds. But from the *Southwick* Journal, and Dr. *Winteringham's* *Nossologicum*, 1726 seems to have been hotter than 33; for in the former, from *April* 1 to *January* 1, 1727, the total Range of those nine Months, at a Medium, was 11,889; but the Range of the same Tube in the open Air, unshifted, during the same nine Months, in 1738, was 13,107. The Heat of 26 was short of 17 and 18, but especially of 19; for Dr. *Winteringham* says that the Heat of those Years was very uncommon in this Climate, as was the Cold of 1698, taking the whole Year together, beyond that of 1740; so that these Years seem to be the late Extremes of our Air, the Severity of 40 being chiefly in the four first Months.

Thermometrical Journals give not only a comparative Account of a Series of Years in the same Place, but also the Temperature of the Air in different Places, Soils, Situations, Climates, and Countries; as at *Plymouth*, *London*, and *Southwick*. The total Range of the Thermometers from *January* 1, 1729, to *January* 1, 1736, the first was 117,423; the second, 124,838; the third, 135,886; so that they are nearly as from 11, 12, and 13; especially as the last stood exposed in the open Air, in a North Aspect, shaded from the Sun and Rain; which is the only true Situation all Thermometers should be placed in. The first lies close by the Sea Side; the last lies low, surrounded with thick Woods. On comparing the *Southwick* and *Lyndon* Thermometers (the last lies on the Top of a Hill, seven computed Miles from the first) during the Time of their cotemporary Registration, the Total of the former was 56,633; of the latter, 55,226. Indeed the Air of the former may be cooler, from it's low Situation, clayey Soil, and much Wood, and the Tube exposed to the open Air; and the latter hung in a Gallery facing the North, in the House, in a clear, dry Air. Or if *Plymouth*, *London*, *Edinburgh*, and *Southwick* Tubes are compared for the four Years, Dr. *Plummer* kept his Journal at *Edinburgh*, viz. from *June* 1, 1731, to *June* 1, 1735, their Totals are,
for

for the first, 66,280; the second, 70,943; the third, 74,333; the fourth, 85,537: The first lies warmest, the last coldest. Or if we compare the Totals of *Plymouth*, *Southwick*, and this Place, from *November* 1, 1734, to *July* 1, 1737, the first was 46,546; the second, 47,998; the third, 42,162. In the last Year *London* was 17,919; this Place, 16,600; above 1300 Odds. But was an exact History of the several Temperatures of the Air in different Places to be expected, all Glasses should have equal Balls, Tubes, Bores, and contain the same Liquor at equal Heights, and be all placed in the same proper Aspect; for the Temperature of the Air is altered by a Thousand little Accidents, especially in Cities, Towns, and Places of Resort.

From our Sense of Feeling and the Help of Thermometers, we perceive the Air grow warm, and it's Gravity less variable, as we come nearer the Line, and more changeable in it's Temperature as we recede from that, and approach the Poles; nay, it varies in the same Country at small Distances; for we find the same Year, Season, yea Day, colder in one Place and warmer in another. The same is true as to Fruitfulness and Barrenness; for the Harvest of 1742 was good and plentiful in *England*, but was poor and bad in *Scotland*, which was obliged to be supplied with Corn from *Poland*. The Spring of 46 in *England* was unusually severe, wet, hard Frost and deep Snows, which two last were terrible in the Highlands, but in the South of *Scotland* an uncommon dry, warm Seed-Time. The whole Summer and Harvest of 56 was most wet, and often Rain in *England*, but good and most seasonable in *Scotland*; a few Weeks in *June* and *July* excepted. At *Plymouth*, 1733, it was a 15th Part warmer than 30, and an 84th colder in *London*. 1735 was a 17th Part colder at *Plymouth* than 29; but rather warmer in *London*, and excessive cold here. At *Southwick*, 29 was colder than 35. The Drought also of 1760, contrary to most other Droughts, affected the Champaign Country much more than the mountainous and moorish. Several like Instances will occur to such as will compare Journals from different Places and Countries; nay, even at the small Distances of half a Mile or a Mile, I have seen it frosty in one Place, and fresh and mild in another; clear and calm in one, cold and cloudy in another; Rain, Snow, Hail, Sleet, &c. in one, fair, warm, &c. in another. General Rains and Snows happen but seldom in the same Year.

The Difference of the Temperature of the Air, at different Seasons of the Year, is much greater than between one Year and another, *December* and
January

January being usually the coldest Months, and *July* and *August* naturally the warmest; if it happens otherwise the Seasons are irregularly constituted. In *Plymouth* 21 Years Journal, the Total for *January* is 40,226; for *July*, 18,892. For the seven Years of *London*, *January* is 13,842; for *August*, 7377. For 13 Years at *Southwick*, *January* is 26,286; for *July*, 14,243. At *Lyndon*, for 15 Years, *January* is 31,002; *July*, 15,077½. At *Edinburgh*, four *Januarys* were 8937; four *Julys*, 5023. Two *Januarys* here, 5021; two *Julys*, 2790. Some near, some below, and others above one Half, or double.—The Spirits or Mercury in Tubes, in the warmest and coldest Months of the same Year, have very different Ranges; for in *January* 33, it was 1689; in *July*, 745. In *January* 40, the computed Range was 2371. In *June* the same Year, (which was cold for the Season) 1005. Hereby also we have the several Ranges, in the same Months of different Years, which shews a surprizing Difference; for in *May* 26, it was 1095; but in *May* 29, it was 1623; and at *Southwick*, near as 11 to 16. But had we the Range for 1698 and 1719, the Difference would be much greater, as the former was the coldest, and the latter the warmest we have had in this Age; for the Difference between 1740 and 45, is inconsiderable upon the whole, viz. 7555 and 7670; or compare the hottest Month in *Plymouth* and the coldest, viz. *August* 46, 651, and *January* 40, 2351; as 6 to 23, near 4 to 1.

Hence observe, that Barrenness of Land and Famine cannot be certainly from Spring Cold alone or Rain alone; for in 1728 was a great Scarcity, or small Famine; the Range of the Spirits for the four Spring Months was 5818. In 29 was a most rich and plentiful Crop; Oats fell from a Guinea to 5 s. per Quarter, and Wheat from 7 s. to 2 s. 6 d. per Bushel; yet the Range of the four Spring Months was 6377. Therefore the Dearth of 28 was not from the Cold, but the excessive Rains; for from *December* 1, 27, to *May* 1728, fell near 20 Inches Rain; but the whole Year of 27 had only 20¾. 28 had 27 Inches Rain. 1729 had 24 Inches. From *December* 28 to *May* 1, 29, fell little above eight Inches; so that the Seed was soaked, drowned, and rotten in the Earth in the Winter and Spring of 28.—Again, in 1740 we had scarce any Rain from *December* 39 to *May* 40, but the severest Winter that had been in *England* some Ages before, so as Rocks of Ice were dug out of the Earth in *July* after. From *December* to *May* fell not two Inches Rain. Therefore the Famine of 40 and 41 is easily accounted for; for, 1. The Seed and vegetive Principles were locked up and chilled in the Ground, which was a meer Rock of Ice; so that where there was any Moisture, or where the Earth was
very

very dry, there could be no Vegetation. 2. The Ground had spent it's present superficial vegetive Principles in producing the luxuriant Crops of 38 and 39, enough, with Management, to have served the Nation four or five Years. 3. In the North, the deluging Rains in the last Month of 39 had drowned the Earth with Water. 4. Which Rains had dissolved and carried off the fertilizing Salts out of the Earth's Surface. 5. It killed, drowned, and carried off much Seed in the low Grounds where the great Rains had fallen; and in high Grounds it was starved in the Spring till it was too late to come in Time; but, where there had been less Rain, the Crops of Corn were pretty good; and it was observable that the North Countries towards the Pole had a milder Winter than common. The excessive Rains of 55, with the cold hoar Frosts and East Wind in the Spring of 56, till near the End of *June*, occasioned the great Famine of 56 and 57: And whenever the Case happens to be as in these three Instances, there is great Reason and Probability to expect a Famine, therefore special Care should be taken, at such Seasons, to manage the preceding Crops with Œconomy.

There can no true Estimate be made of the Temperature of the Air in general, of several Places, from Scrap Journals of one for a few Months, as we see from the Difference between *May* 1726, and *May* 1729. To take a just Account of the Temperature of the Air, Observations should be made and registered, Morning, Noon, and Evening daily, *viz.* at or before Sun-rising, which is the coldest Time in the 24 Hours; at One in the Afternoon, which is the warmest Time; and Nine or Ten at Night, from a Thermometer fixed in a proper Aspect, once a Day being only a random Guess; but to take it at sundry Times on several Days, or Forenoon and Afternoon, when the Difference is very small, and that neither in the warmest nor coldest Time, is trifling and idle, fit only to divert gouty People. Therefore in the next Page, on the Left Hand Margin, are the Stations of *Farenheit's* Mercurial Pocket Thermometer, taken three Times a Day from *November* 2, 1754, to *July* 1, 55; where observe that the fifth Line of each of the three Columns is only for the last ten Days of *March*; where we see that as One o'Clock P. M. is warmest, so one Hour before Sun-rising is coldest. But this is more evident from the eleven Months Table, close to the Right Hand of the other on the Margin, taken with another Thermometer which was exactly divided, but neither graduated nor regulated. This discovered the least Alteration in the Temperature of the Air of any I have seen; it's Scale was divided into 120 equal Parts, according to that of the Royal Society; yet the Sum total of
all

all these Parts was only equal to 76 of *Farenheit's*, and so could only be useful in the Winter Sun. It begins with *November 55*, as the other did *November 54*.

Taking the eleven Right Hand Months together, the Cold of the Morning is to that of the Evening near as 22 to 21; and the Noon, as 22 to 16, from the oblique Distance of the Sun, and it's short Prefence in our Sight. The Difference of the Winter Morning and Noon is not great; but less between Noon and Night. The Difference is more visible, but remarkably great in the last four Months. This explains the Table of *Farenheit's* Thermometer on the Left Hand for eight Months.

Morn.	Noon.	Night.	Morn.	Noon.	Night.	A good Thermometer may sometimes answer an End, which neither Barometer nor Hydro-scope can do; for by it, in cold Weather, we may guess at the Thinness or Thickness of the Clouds, what Load of Rain they carry when we observe the Sun, from the lesser or greater Difference between the Morning and Noon Thermometer; for the thinner or thicker the Clouds are, the warmer or colder the Air, (<i>cæteris paribus</i>) often the thicker the Clouds the heavier
1107	1314	1280	2540	2550	2418	
1103	1227	1125	2502	2204	2398	
972	1165	987	2418	2140	2326	
965	1178	995	2304	1817	2210	
407	528	467	2400	1819	2355	
1431	1621	1468	2310	1606	2282	
1490	1854	1488	2246	1373	2150	
1684	2018	1692	1476	996	1401	
			1348	870	1211	
9159	10905	10502	1342	904	1338	
			1524	558	1370	
			22401	16437	21459	

their Load, and the less Difference between Morning and Noon Air, always taking into the Account the Wind and Season of the Year. To find the different Temperature of the Air before Sun-rising, in the Noon-Shade, and in the bright Sun from *November* to *March*, in clear Sunshine Days, I took the Thermometer used before in the following Right Hand Table, because it's Mercury rose and fell the quickest by the least Alteration of the Air, of any I could meet with. Column 1. The Day and Month. Column 2. The Point of the Wind, it's Height, and Aspect of the Sky. Column 3. The Height of the Mercury in the Tube before Sun-rising. Column 4. It's Height in the Noon Shade. Col. 5. And in the bright Sun.

Month.

Month.	Wind.	Morn.	Shade.	Sun.	
<i>Nov.</i> 12	N. W. 3. fhv.	80	70	50	<i>June</i> 20, a bright Noon; the Sun raised <i>Halley's</i> Thermometer, set on the Ground, to 100, which was the highest it rose to during the Summer of 1756; <i>Matlock Bath</i> raised it to 64; and the Tube used in the preceding Right Hand Table it raised to 25, equal to 64 of <i>Halley's</i> . <i>July</i> 4, at Five o'Clock P. M. <i>Halley's</i> rose to 90. <i>July</i> 16, at Six P. M. in the Shade, it stood at 54; in the Sun, at 76: Noon Shade, the same Day, was 64, 98. <i>July</i> 4, in a moist, damp Shade, it stood at 64; in a dry Shade, at Five P. M. it stood at 68. <i>Oct.</i> 10, at Ten A. M. in the Shade, it stood at 64; in the Sun, at 82. <i>Oct.</i> 30, in the bright Noon Sun, 78; in the Shade, 49. <i>Nov.</i> 4, Noon Shade, 48; bright
15	N. W. 3. Fr.	93	70	43	
18	S. o. o. Fr.	75	50	47	
19	S. W. o. o.	86	67	41	
20	S. W. 2. o. o.	77	64	41	
24	W. S. 3. o. o.	78	68	43	
<i>Dec.</i> 6	W. o. o. Fr.	93	85	50	
22	S. 2. o. o.	91	77	60	
25	W. S. 2. o. o.	78	75	51	
27	W. 3. o. o.	72	57	50	
<i>Jan.</i> 12	W. 3. o. o.	81	76	55	
15	N. W. 4. o. Fr.	84	80	50	
21	W. 4. o. o.	72	64	50	
28	W. 2. o. o.	78	65	20	
<i>Feb.</i> 8	W. 3. o. o.	70	62	24	
10	W. S. W. 2. o.	85	70	25	
13	S. W. 3. o. o. o.	70	64	35	
15	W. 5. o. o.	72	56	40	
19	W. 4. o. o.	105	75	44	
22	W. 2. o. o.	67	40	00	
23	W. 1. o. o. o.	98	60	30	
<i>Mar.</i> 17	S. E. 2. 5. o.	81	56	20	
20	W. N. 3. o. o.	101	75	00	
24	N. 4. o. o. o.	100	71	30	
25	W. S. 3. o. o.	96	70	10	
		2083	1668	909	

Sun, 80. *Nov.* 8, Shade, 42; Noon Sun, 60. *Nov.* 18 and 20, Noon Shade, 35; Sun, 60. *Dec.* 9, Noon Shade, 35; Sun, 60. *Dec.* 16, Shade, 40; Sun, 58. *Dec.* 24, Shade, 38; Sun, 56.

1. By comparing the third and fourth Columns of the last Table, it appears that in *November* a clear bright Sun warms 25 Degrees more than in the Shade; in *December*, 13 Degrees; in *January*, 38; in *February*, 40; and in *March*, 40 Degrees.—2. The Sun's *November* Noon Heat is 27 Degrees warmer than in the Shade; in *December*, 35; in *January* and *February*, 40; in *April*, 50; in *May*, at Six o'Clock P. M. 40, &c.—3. Different Winds affect our Senses more than Thermometers; for in a high North Wind the warm Shade raised it 45 Degrees, and in a high
S West

West Wind only 35, both in *May*: The same with a South Wind in *November* and *December*.—4. It is affirmed that our hottest Sun never raises the Thermometer above 100 Degrees, and rarely so high; but it is not said where nor in what Position Thermometers were placed, which makes a very great Difference. In the Summer of 56, which was very wet, and not very hot, yet laid on the Ground, the One o’Clock Sun of *June* 20 raised the Mercury to 20; and some other Summers, as of 57 and 58, have raised *Farenheit’s*, laid on the Ground, to 106, or even 110. In which 95 or 96 is reckoned the common Temperature of a young healthy Man’s Body at Rest; which Heat injures not his Skin, but the Sun’s scorches and blisters it; yea, has sometimes fired and burnt whole Forests of Wood. The former rarely or never happens to the Skins of those scorched in hot Fevers, whose Heat raised *Farenheit’s* to 110 or 112.—5. Upon several Trials on shifting *Farenheit’s* Thermometer from a wet, moist, and damp Shade, to a dry, gravelly, or sandy one, it also rose several Degrees; hence rainy wet Summers generally keep the Earth wet, moist, and cool.—6. There is something more penetrating in Frost than in Winds; for a small Frost immediately affects the Thermometer much more than the chilliest high North or East Winds.—7. From a Journal of the *London* Thermometer, from *November* 1734 to *July* 1737, the Totals of the coldest Days taken together, was 1746; and of the warmest, 1266. The coldest within Doors was *January* 24, 1737, when the Mercury fell to 65; and *May* 26, when it rose to 20. But *July* was colder, for the 27th, being it’s warmest Day, it rose only to 29, and *August* to 21. This Thermometer was kept in a Place out of both Extremes of Heat and Cold. In another Journal of *Farenheit’s* Thermometer, kept exposed in a proper Aspect in the same Place, from *December* 1, 1753, to *July* 1, 55, the two coldest Days in these 19 Months were *February* 7, 54, and *February* 8, 55. Both Days the Thermometer was down at 15; an East Wind, hard Frost, and much Snow; yet we are informed it was 10 Degrees colder at *Bath*, where it was down at 5, tho’ 3 Degrees more South. The warmest Days in 55 were *May* 12 and *June* 17; Wind West and South-West; Thermometer 65; so that 15 and 65 were the two Extremes of Heat and Cold here.

The Difference is great between one Thermometer exposed in a proper Aspect, and one hung up in a Gallery, Passage, Room, or Stair-Case, tho’ only at a few Feet Distance (see *Philos. Transf.* N°. 484, p. 613); which shews the Weakness and Conceit of such as say the Difference of those Situations in a Day is small; but such as try both will find great Odds; tho’ sometimes

sometimes it may appear little, yet at others it will be very wide; as some Days not above two or three, on others above 20 or 30.

From the Perusal of several Journals of Thermometers kept for the same Year in different Places, we may observe, that however our Senses may deceive us, by apprehending some Years excessively hot or cold beyond others, yet in Reality it is not so, taking whole Years together; for from the *Lyndon* Thermometer, from 35 to 51, 1740 was the coldest, and 38 the hottest. The whole Year's Range of the former was about 20,954; of the latter, 18,209; scarce a Seventh Odds.—At *Southwick* 1727 was the warmest of 14 Years, and 29 the coldest; yet the Difference was as 17,968 to 20,679; between a 7th and 8th Part Odds.—At *Plymouth*, 33 was the warmest, and 40 the coldest; yet differed only between a 6th and a 7th Part; above which, upon the whole, one Year rarely differed from another. But the great Difference is, when Heats and Colds come unseasonably, as the former in Winter, and the latter in Summer; or continue long, especially the Cold in the Summer Months, or when the Temperature of the Air changes not with the Season, as is natural, but continues pretty much alike, as was the memorable Year of 1698, which was all cold; or in frequent sudden Changes of Weather from one Extreme to another. The first two chiefly affect the Earth's Product; the last, Animal Bodies. Many think it a wet Year that has large Quantities of Rain in it, & *e contra*. But there may fall very large Quantities at once, and seldom, and still be a dry Year; yet Years are generally reputed dry or wet from the Spring or Summer Months, on which the Plenty or Scarcity of Grass, Hay, and Corn chiefly depend; if these are a rainy Season, it is justly deemed a wet Year; and if Rains in these Months are seldom and small, it is accounted a dry one. Here we may find a Reason for several Things, as, 1. Why wet Years are generally cold, especially on low, fenny, clayey, or stiff Grounds; because either they bear up the Water, or it cannot run off, which keeps the Air constantly damp, wet, and cold; hence, in such Situations and Seasons, Intermittents, Dropsies, Cachexies, Palfies, and Jaundices are often common, from the Moisture and Coolness of the Air lessening Perspiration, and increasing sluggish, inactive Humours.— 2. Why frosty Winters generally succeed wet, deluging, rainy Autumns.— 3. Why long, hard Frosts are generally followed by hot and droughty Summers. For all these contribute to keep near an Equilibrium between the Temperature, Dryness, and Moistness of the Air in the several Seasons. But there is a great Difference in the excessive Cold of some Climates, and the Heat of others; yet both compatible with Animal, yea with Hu-

man Life, which can bear the former in a much greater Degree than the latter. *Boerhaave* says no greater Degree of Cold can be produced than that from concentrated Spirit of Nitre, which sinks the Mercury in *Farenheit's* Thermometer to 40 below 0; yet in the *Philosophical Transactions*, N^o. 486, p. 259, *Gmelin*, Professor of Chemistry at *Petersburgh*, who was sent by the Empress of *Russia* to *Siberia*, and resided there nine Years, viz. from 1733 to 42, made the following Experiments with a *De Lisle* and *Farenheit's* Thermometers at *Kerengiski*, January 5, 1735.

	<i>De Lisle.</i>	<i>Farenheit.</i>
January 5.	260=	
6 A. M.	280=	120 below 0.
8	250=	
December 11. 3 P. M.	254=	90 below 0.
20. 4 P. M.	263=	99 $\frac{4}{10}$ below 0. &c.

Boerhaave says also that Man could not endure a Heat which raised the Mercury above 90 Degrees; yet we see that the Heat of a healthy Person's Body at Rest is 96; and even in the Summer of 56, (which was not hot, tho' warmer than 55) on some Days the Thermometer, when laid on the Ground, rose to 100, and often to 98. Yet *Gmelin* informs us that, at *Astracan* in *Tartary*, at 48 Degrees Latitude, and 58 $\frac{1}{2}$ Longitude, the Mercury rises to 103 $\frac{1}{2}$ in the Shade; and in the *Bagnios* in *Russia* People often bathe them from a half to a whole Hour, when the Mercury is at 108 or 110. So that the utmost Limits of Cold and Heat, consistent with Human Life, is still unknown; therefore the Notion of the Antients, concerning the Inhabitability of their Frigid and Torrid Zones is false and absurd. Both *Gmelin* and Vol. IV. of the *Amœnitat. Academic.* tell us that, from August 18 to June 23, all is Snow and Ice in *Siberia*. June 23, the Snow melts, and is quite gone. July 1, the Fields are all green; the 9th and 17th, Plants are at full Growth; and on the 25th they are at full Blow. August 2, Fruits are ripe; on the 10th the Plants shed their Seed; and on the 18th Snow begins. Thus Spring, Summer, and Autumn, says *Stillingfleet*, are crowded into 56 Days. It would have given great Satisfaction had *Gmelin* given us the Range of the Barometer these 56 Days. Heat is limited within much narrower Bounds than Cold.

This Fruitfulness in *Siberia* and other like Places, especially in so short a Time, is very remarkable, where all lies buried under Snow and Ice above ten Months. And perhaps the subsuperficial Earth may be a continued Rock of Ice never thawed, yet the Ground is warmed and enriched

riched by it's yearly Load of Snow and Ice. The speedy Growth, Ripening, Reaping, and Ingathering of their Fruits in so short a Time, is wonderful; as is the Preservation of the Roots and Seeds of their Vegetables, lying so long under such Depths of Snow, yet this keeps them dry and warm all the while. But still this frozen Empire (extending between *Russia* and *Japan*) is not destitute of Necessaries for the Support of Life, but has it's Riches to command it's Pleasures, having Gold and Silver Mines, hot Baths, true Natron, Sal Gem, &c.

The Temperature of the Air varies much more according to the different Months and several Seasons of the same Years differing themselves; for in *March* 41 the Range of the Mercury was 1829; in *June* the same Year, only 689.—2. Not only in different Months and Seasons, but in the same Day; as in *March* 54 my Thermometer rose from 32 to 54; yet such different Pressures and Temperatures of the Atmosphere are quite consistent with Health and Business, except with the Aged, Weak, Valetudinary, or Effeminate.—3. There is also a great Inequality in the Morning, Noon, and Evening Air, in the Months of *December* and *June*. I took the Totals of the Morning, Noon, and Night in the open Air by *Farenheit's* Thermometer. The Morning Totals of *December* were 1108; Noon (in the Shade) 1253; Noon (in the Sun) 1579; Night, 1224. *June* Morning Totals in the Shade were 1684; Noon, 2018; in the Noon Sun, 2700; Night, 1692; but as we rarely have Noon Sun a whole Month together, especially in *December*, I took the Medium between the highest and lowest of each Month's Noon Sun, and multiplied that Medium by the Number of Days of each Month, and of it made the Totals. Thus we see how much the Sun, tho' often over-clouded, warms our Atmosphere both in the longest and shortest Days; and that the Morning, before Sun-rising, is usually the coldest Time of the Day. *December* 17 and 19, I took the Thermometer out of the Shade into a bright Sun, and the Mercury rose to 52. *June* 2, at Six o'Clock in the Morning, the Thermometer in the Shade stood at 54; shifting it into the bright Sun, it rose to 74; in the Noon to 90. This gives the Odds between brightest Noon Sun and Shades in *December*, and the Shade and early and Noon Sun in *June*; yet not in a hot Day. But as *January* is usually reckoned a colder Month than *December*, on Trial it proved so; for the Totals of the Morning Thermometer were 1061; Noon, 1237; Night, 1084; little Difference between Night and Morning; *December*, Morning, Noon, and Night, we had above.—4. It is not easy to take the Sun's true Heat, for *May* 22, 1755, at Six in the Morning, the Thermometer in the Shade stood at 56: at Noon, on a Wooden Win-

dow

dow Sole facing the Sun, and warmed by it, it rose to 104; set on warm, dry Garden Mould, to 109; hung upon a Bough of a Tree, full facing the Sun, 84; in the Shade, 68; hid in a large Angelica Stalk, 60. *May* 28, in the open Air, 62; in the above Angelica Stalk, 55. The Reason of these Differences was the Sun (tho' early) beating on the Window Sole and Garden Mould, warmed the lower Side of the Ball, the Sun the upper, and the Juice that lodged in the Hollow of the Stalk cooled it. It is the same if the Tube was set against a Wooden, Brick, or other Wall facing the Sun, or hung against a Tree, or any other Body reflecting a Warmth against the Ball of the naked Tube; or if the Tube is fixed and set out in a Case, which reflects it's own Heat; or if it was hung up in the open Air on a Twig or Bough, remote from any warming or reflecting Bodies that reverberate either the Sun's or it's own Heat; for if the Sun warms on one Side, the Wind, or Current of Air behind, cools the other; so this Elevation of the Mercury is only a Compound of a Heater on one Side, and a Cooler on the other: A Thing not adverted to hitherto by such as have given us the Sun's Heat by a Thermometer. We are told the greatest Heats of *South-Carolina* are 98, 100, or 102, and their yearly Range 50 Inches: It is said in *Rutlandshire* to rise to 88, and to 98 at *Peterborough* in *Northamptonshire*. An ingenious Gentleman well observes, that it is difficult and very uncertain to take the just Heat of the Sun here, unless the Tube was watched every Moment, for the Thermoter will rise and fall 10 Degrees in five Minutes, according as the Sun shines, or is clouded. However, in *June* 58, he saw it rise to 80, in *August* to 87, in *July* 59, to 87 and 92, and in *August* to 89; but it's Highest of all was on *July* 22, at Three in the Afternoon, when it reached 101; and it's Highest in the Shade was *August* 10, near Four o'Clock P. M. 81, when the Heat of the Sun was taken four Feet above the Turf; for the Thermometer, set one or two Inches above the Ground, rises 10 or 15 Degrees higher than when raised four, five, or six Feet: So that a Thermometer without a Frame, and the Number written on a Paper pasted on one Side of the Tube and Ball, is fitter than a Frame to be hung up in the open Air.—5. Totals of either Barometer or Thermometer seem to be most exact by the Method above. I took the Range of my Thermometer for 32 Months, both by the Mediums and by adding the true Numbers together, and I found the Difference to be about a 30th Part. I took the above quick-moving Thermometer divided into 120 Degrees, but all equal to 76 of *Fahrenheit's*, and set it in the open Air *December* 26, cloudy and Wind South, it stood at 72. Shifted on a Table in an upper Room, it stood at 60; laid upon the Window Sole under the Sash, half out,

out, it stood at 58; the Sash raised up a little as before, and the Tube set a Foot within on a Table, so as a Current of Air blew full upon it, it stood at 62; the Sash let down, and the Tube laid as before, 60; shifted seven Feet from the Window, and four from a small Fire in the Room, 42; then laid in a Crevice under the Room Door, which opened into a Stair-Case, 60; on a Table on a Parlour Floor boarded, without Fire, 67; on a Stone Floor in a low adjoining Dining-Room, without Fire, 73; laid on a Table in that Dining-Room, 70. We see here the Difference between an upper and lower Room, a Stone and boarded Floor; also between the Middle of the Room and sitting near the Crevice of a Door or Window, where the Impetus, or Current of Air, rushing into the Room in a strong Stream, strikes every Person that sits next it, contracts the Skin and Pores, lessens Perspiration in that Part of the Body; hence Pains, Cramps, and Stiffness.

I have insisted longer on the extensive Use of the Thermometer, in giving the Temperature of our Air, because so little has been said of it before, tho' several have wrote on the Barometer.—2. Because the Thermometer is more certain, and more extensively useful, not only for this Purpose, but Chemistry, Cookery, Gardening, Dying, Malting, Brewing, Distilling, &c. and a pretty near and sure Gauge for the Vegetation, Leafing, Flowering, and Seeding of Plants, Fruits, and Grains of either different or the same Country and Climate, in different Seasons, with several Differences.

Having briefly made some Observations on the Gravity or Levity, Moistness or Dryness, Heat or Cold of the Air, this naturally leads to consider the sundry Quantities of Rain that have fallen yearly, in several Series of Years, in sundry Parts of this Island. Column 1. The Name of the Place. Column 2. The Number of Years wherein the Rain was measured. Column 3. The total Quantity that fell in those Years. Column 4. The most that fell in any one Year. Column 5. The least that fell in any one Year. Column 6. The computed Medium. Column 7. The true Medium.

London	7	147	24: 57	13: 60	18½	21
Edinburgh	4	94	26: 626	20:	23	27½
Kent	5	109½	29:	14½	21¾	21½
Chelmsford	5	101	27: 316	14: 202	20½	20½
Townley	22	931	51: 55	31: 40	41	42
Upminster	18	356	26: 50	11: 19	18½	20¾
Southwick	15	328	26: 7	13: 75	20	22
Darlington	6	126	29: 87	16: 77	23	21
Plymouth	22	662	37: 114	17: 266	27	30
Pickering	5	149	37: 672	22:	29½	30
Lyndon	27	525½	27: 158	15: 702	21½	19½

To what others have said on Rain may be briefly added; 1. That all Places are far from having equal Quantities of Rain; some have double the Quantity of others.—2. The same Places have some Years double the Quantity of others.—3. Places at

at small Distances differ in their yearly Quantities of Rain.—4. Tho' some Droughts are general, yet they are more severe in some Places than others.—5. Rain may be neither too much nor too little, yet the Earth may be barren from sundry Causes; but several Things there are that may prevent or lessen Scarcity, as to promote such general laudable Methods as would encourage a good Vent for Corn, since *England* has Land enough to produce more Grain than it can necessarily use with good Management. That Farmers sow enough of Corn to sell one Year with another. When Scarcity happens all unnecessary Vents should be immediately stopped, that more Corn may be left for necessary Use; and a Stop put to the inclosing of Grounds, especially the best Corn Lands, which must be succeeded in Time (if not prevented) by the great Oppression of the Poor for Want of Bread, and thereby to hurt our Colonies, Manufactories, Armies, and Navies, which are chiefly supplied and supported by the Poor; and as most Lands are now surveyed, each Farmer, by his Lease, should be obliged to sow so many Acres of his Farm every Year. But, among necessary Vents for Corn, Distillery cannot properly be included; because, tho' it occasions a great Consumption in Time of Plenty, and consequently a great Increase of Tillage, yet it's Produce tends so much to the debauching the Morals, and destroying the Life of the present, and Strength of the future, Generation, that both Policy and Morality forbid it's Use. Several other Things on this Head will fall in hereafter.—6. The Quantity of Rain falling depends not so much on Rain, Showers, Mistling, Drizzling, Sleet, Hail, Snow, &c. as on the Greatness, Frequency, and Continuance of the Rain on wetting Days; for the great Rains seldom fall above three Fourths of an Inch in one Fourth of an Hour, or two Inches and a Half in 12 Hours, or five Inches in three Days, or seven Inches $\frac{3}{4}$ in a Month, and, in the Center and South of *England*, 27 Inches in one Year; yet, in 1731, *Plymouth*, it seems, had only $17\frac{1}{2}$ Inches Rain, but had 130 wetting Days. 1734 had 37 Inches Rain, and only 167 wetting Days. 1739 had $36\frac{1}{3}$ Inches Rain, and 208 wetting Days. 1741 had 20 Inches Rain, and 142 wetting Days, yet a great Drought. At some seldom Times, in some Places, more Rain falls in one Shower than in six Months; as, *June* 10, 1729, the News tells us of a Shower that fell in three Hours Space, in and about *Sheffield*, within the Compass of seven Miles, 12 Inches deep of Rain; and *July* 1755, at *Wadworth* in *Yorkshire*, fell a much greater Quantity in less Time. In 1756 fell, seven Miles distant from that, a Shower near half the Depth of the first. In *September* 1741, and again in *September* 44, each Time fell, in 96 Hours, a continued Rain from seven to eight Inches deep. The last two Rains were general, especially in the North of *England*.—7. Tho'

Edinburgh

Edinburgh lies on the Sea-Coast, yet it seems to have both less Rain and fewer wetting Days than *Plymouth*; for in 1731 the former had only 56 wetting Days, and the latter 159.—8. Few of the wetting Days happened on the same Day, *viz.* only 132 out of 655, near 1 to 6. The wetting Days at *Plymouth* and here, compared for 19 Years together, the former had 3161; the latter, 2507; upon 1743 of those Days it wetted, more or less, in both those Places; near Half of the former coincided with two Thirds of the latter in the same Day. Four Years of *Plymouth* and *Chesterfield* compared, the former had 619, the latter 487 wetting Days; whereof 339 coincided, which was near Half of the first; so that at a Medium, *com. Ann.* the wetting Days were 160; here they were 130; at *Chesterfield*, 122; at *Edinburgh*, 56, and many Fogs. *Coventry* and *Chesterfield*, for $15\frac{1}{2}$ Years, their wetting Days are as 17 to 20, tho' they are pretty near equal for eight Years.—9. Hence see the great Difference in the Frequency of Rains at a short Distance, *Coventry* and *Chesterfield* being only 40 computed Miles asunder, but *Coventry* and this 52 asunder; yet, tho' so near, *Coventry* had 1728 wetting Days, and *Chesterfield* 2070, and only 920 of them coincided. Great and long Rains are more extensive, Showers more local. 1719 had only 59 wetting Days; it's Heat was great; but the Drought of 1723 was greater. It is not the Number of wetting Days only that constitutes a rainy Year; but the Extent, Frequency, and Continuance of the Rain. But tho' the Rains should be equal, and neither more nor oftener in one Place than another, yet as some Soils and Situations require more Rain than others, the former, as sandy, rocky, hilly, and mountainous Ground, would be parched and dried without more frequent and greater Supplies; so low, level, clayey Grounds would be drowned by the same Quantity of Rain which the other required.—10. Since only few Rains are general, then the same Year may be both rainy and drouthy; a rainy Winter, Spring, Summer, or Harvest, or a drouthy Spring, Summer, or Harvest; for the second or third mostly constitute a dry Year, seldom the first and last; and tho' several of the showery Days, in distant Places, coincided, yet many of the interjacent Places might be without Rain on those Days; for in a calm Summer's Day we often observe two or three Showers in different Places at once, and none in the intermediate, some Showers not being above a Quarter or Half a Mile broad, and others not above two or three Miles long.

Several Diaries and Journals give an Account of wetting Days and yearly Quantities of Rain that fell in different Places; but none have given so much as a Guess, much less an exact Account of the Continuance

T

and

and Duration of those monthly and yearly Rains, or what Proportion our rainy or wetting Weather bears to our dry, tho' this may easily be done in the Day by any careful Observer, and in the Night, in Cities and large Towns, by having a good Understanding with two or three sober Watchmen, who will observe by the Town-Clock when Rain begins and ends, and how long it continues, besides other Ways of being informed of the Truth of this. The Kind of Wetting may be marked thus: For Misling or Drifling (which is a misling Rain with a brisk Wind) *M.*—or misling, small, or slow Rain, *r. r.*—ordinary great, *R. R.*—very great, *G. R.*—Showers, or showery, *sh. or shy.*—if it thunder or lighten with it, *Tb. L.*—Sleet, *Sl.*—Hail, *H.*—Snow, *Sn.*—Of this I have for some Years made exact Observations for the Table below. Column 1. The Years and Month. Column 2. The Number of wetting Hours in that Month. Column 3. What Proportion the wet Hours bear to the dry. The last Column of every Year denotes the Quantity of Rain that fell monthly.—*N. B.* The Duration of Wet and the Proportion of Fair were not taken in the same Place with the measured Quantities, the former having much more yearly Rains than the latter, but yet give some Hint what Proportion the Duration bears to the Measure at one Degree Distance, and shews what has most Rain in one, may not be so in the other.—This Table presents us with a new Scene not heretofore attempted, that I know of, *viz.* the Proportion of Time in *England* between dry and fair, or rainy and wet Weather, including Rain, Snow, Hail, Misling, and Drifling, but exclusive of cloudy and haizy Weather; a Thing neither inquired into by Foreigners, Natives, or Inhabitants, tho' very useful, and needful to be known. An Inquiry, not into what Loads of Weight in the Clouds our Atmosphere is capable to sustain, but what it has been observed to support before it's Fall. Here to subjoin the small Table beneath, where Column 1 is the Months for 10 Years. Column 2. The Quantity of Wet that fell in each Month in Inches, &c. Column 3. The Number of Hours it fell in.

<i>December</i>	10 : 385	350 $\frac{1}{2}$	<i>April</i>	13 : 370	435
<i>January</i>	10 : 337	398	<i>June</i>	17 : 10	358
<i>February</i>	10 : 866	333	<i>July</i>	17 : 315	368
<i>March</i>	11 : 108	420	<i>August</i>	26 : 885	471
<i>May</i>	11 : 693	381	<i>September</i>	13 : 670	445
<i>November</i>	12 : 104	565	<i>October</i>	18 : 344	640
66 : 493		2447 $\frac{1}{2}$	106 : 593		2717

N. B. These Quantities of Rain were taken by the ingenious *Thomas Barker*, of *Lyndon*, in *Northamptonshire*, Esq; to whose generous Assistance in the above Country Journal of the Weather, I own myself particularly obliged.

The Duration of the Rain was taken at *Sheffield*, where it falls more frequently, and in greater Quantities than at *Lyndon*, from it's Nearness to the Mountains.

Hence

A TABLE of the Duration and Quantity of Rains, monthly and yearly, from *January 1, 1755, to December, 1766*; the first taken in the North of *England*, the second in the Centre, 75 Miles distant.

	1755.			Inches of Rain.	1756.			Inches of Rain.	1757.			Inches of Rain.	1758.			Inches of Rain.	1759.			Inches of Rain.	1760.			Inches of Rain.
January	40	2 in	37	1.021	76	1 to	9 ³ / ₄	2.010	88	1 to	8 ¹ / ₂	2.144	23	1 to	32 ¹ / ₃	1.807	24	1 to	31	876	61	1 to	12 ¹ / ₅	1.063
February	18	1 to	35 ³ / ₄	835	48	1.	14	2.689	27 ¹ / ₂	1.	25 ¹ / ₈	594	67 ¹ / ₂	1.	10 ¹ / ₃	2. 60	32 ³ / ₄	1.	20 ¹ / ₂	379	36 ¹ / ₄	1.	19 ¹ / ₃	1.872
March	42	1.	17 ³ / ₄	1.657	41	1.	18	1.370	47 ¹ / ₂	1.	15 ¹ / ₂	1.905	43	1.	17 ¹ / ₄	1.792	124	1.	6	1.874	14	1.	53	0.452
April	67	1.	10 ⁵ / ₇	1.965	96	1.	7 ¹ / ₂	3.899	79 ¹ / ₂	1.	9	2. 90	2	1.	360	917	96	1.	7 ¹ / ₂	3. 26	14	1.	51 ¹ / ₂	389
May	58	1.	13	1.393	81 ¹ / ₂	1.	9 ¹ / ₈	1.258	52	1.	14 ¹ / ₃	1.371	8	1.	93	1.269	40 ³ / ₄	1.	18	2.739	41 ¹ / ₄	1.	18 ¹ / ₇	890
June	38 ² / ₃	1.	19 ¹ / ₂	1.811	57 ¹ / ₂	1.	12 ¹ / ₂	2.973	56	1.	20	375	34	1.	21 ¹ / ₈	2.160	66 ¹ / ₄	1.	11	2.970	48	1.	15	2.470
July	78 ³ / ₄	1.	9 ¹ / ₂	1.585	48 ¹ / ₈	1.	15 ¹ / ₈	3.197	34 ¹ / ₂	1.	21 ² / ₃	3. 2	110	1.	6 ³ / ₄	5. 23	14	1.	53	927	9	1.	82 ² / ₃	0.895
August	84 ¹ / ₄	1.	9	2.258	96 ¹ / ₂	1.	7 ² / ₃	4.257	62 ¹ / ₂	1.	12	6. 57	39	1.	19	1.711	57 ¹ / ₄	1.	13	3.729	24 ¹ / ₂	1.	31	1.644
September	98 ¹ / ₂	1.	7 ¹ / ₃	2.546	63 ¹ / ₂	1.	11 ¹ / ₃	2.080	13 ³ / ₄	1.	52	518	37	1.	19 ² / ₅	1.465	51 ¹ / ₂	1.	14	854	67 ¹ / ₂	1.	10 ⁷ / ₉	2.333
October	81	1.	9 ¹ / ₂	1.628	90 ³ / ₄	1.	8 ¹ / ₅	1.552	23 ⁵ / ₈	1.	30	1.904	48 ¹ / ₂	1.	15 ¹ / ₂	1.333	69 ³ / ₄	1.	10 ¹ / ₂	1.560	92	1.	8	2.531
November	195	1.	3 ² / ₃	3.138	23 ¹ / ₂	1.	30 ⁵ / ₈	976	42	1.	17 ¹ / ₇	1.498	37 ¹ / ₈	1.	19 ² / ₅	912	45	1.	16	980	115 ³ / ₄	1.	6 ¹ / ₅	2.134
December	81 ¹ / ₂	1.	9 ¹ / ₂	1.408	39	1.	19	944	38	1.	20	2.175	30	1.	24 ⁵ / ₈	1.386	39	1.	19	1. 85	80	1.	9 ¹ / ₃	1.613
Totals	882 ¹ / ₂	near 2 to 10		21.245	762	near 1 of 11 ¹ / ₂		25.186	545	near 1 of 16		23.683	479	near 1 to 18 ¹ / ₄		21.594	660	1 to 13 ¹ / ₄		21.000	603 ¹ / ₄	near 1 to 13 ¹ / ₂		18.285

	1761.				1762.				1763.				1764.				1765.				1766.			
January	37	1 to	19 ¹ / ₃	0.191	49	1 to	15 ¹ / ₄	1.727	none	—	—	0.600	121	1 to	6 ¹ / ₇	3.984	164	1 to	4 ¹ / ₂	1.435	0	—	—	0.164
February	82	1.	9	1.469	20 ¹ / ₂	1.	33	0.968	68	1 to	10	2.882	43	1.	15 ¹ / ₃	1.134	46	1.	14 ³ / ₄	1.240	0	—	—	2.102
March	46 ¹ / ₄	1.	16 ¹ / ₄	0.529	62	1.	12	1.527	25 ¹ / ₂	1.	30	0.919	42 ¹ / ₂	1.	17 ³ / ₄	0.829	128	1.	6	2.767	3 ¹ / ₂	1 to	23 ¹ / ₂	0.785
April	43 ¹ / ₂	1.	17	0.490	38	1.	19 ¹ / ₂	0.595	27 ¹ / ₂	1.	27	0.692	91 ¹ / ₄	1.	8	1.524	58	1.	12 ² / ₅	2.111	132 ¹ / ₂	1.	5 ² / ₅	1.955
May	45 ¹ / ₂	1.	16	2. 35	18 ¹ / ₂	1.	40 ¹ / ₃	0.738	51 ¹ / ₄	1.	14 ¹ / ₂	0.304	29 ³ / ₄	1.	25	1. 95	6 ¹ / ₂	1.	120	0.406	113	1.	6 ¹ / ₂	3.286
June	53 ¹ / ₂	1.	13 ¹ / ₄	3.487	none	—	—	0.704	35 ³ / ₄	1.	20	2.426	31 ¹ / ₂	1.	23 ¹ / ₄	2.182	22	1.	32 ³ / ₄	0.788	55	1.	13	2.279
July	17 ¹ / ₂	1.	43	0.566	56	1.	10 ¹ / ₄	1.119	119	1.	6 ¹ / ₄	5.657	62 ¹ / ₄	1.	12 ¹ / ₈	4.624	7	1.	106 ¹ / ₃	0.582	33 ¹ / ₂	1.	22 ¹ / ₂	2.363
August	31 ¹ / ₂	1.	23 ¹ / ₂	3.614	75 ¹ / ₄	1.	9 ⁶ / ₇	3.615	72	1.	10 ¹ / ₃	2.929	58	1.	12 ⁴ / ₅	1.770	78 ¹ / ₂	1.	9 ¹ / ₂	2.805	30 ¹ / ₂	1.	24 ⁵ / ₈	0.409
September	39	1.	18 ⁷ / ₈	2.349	74	1.	9 ⁵ / ₇	1.525	89	1.	8	3.307	22	1.	32 ³ / ₄	0.830	26	1.	27 ² / ₃	0.696	35	1.	24	1.080
October	146	1.	5	3.685	97 ¹ / ₄	1.	7 ² / ₃	4.154	65	1.	11 ¹ / ₂	1.606	34	1.	22	1.359	78 ¹ / ₂	1.	9 ¹ / ₂	4.842	35	1.	24	0.829
November	58 ¹ / ₂	1.	12	1.443	45	1.	16	0.923	91	1.	8	1.894	235	1.	3	1.765	75	1.	9 ³ / ₄	1.281	79	1.	9 ¹ / ₉	1.938
December	43	1.	17 ¹ / ₄	1.541	none	—	—	0.233	253 ¹ / ₂	near 1 to 3		3.225	112	1.	6 ² / ₃	2.398	30	1.	24 ⁵ / ₅	1.048	—	—	—	—
Totals	643 ¹ / ₄	1 to 13 ⁵ / ₈		21.399	535 ¹ / ₂	1. 16 ² / ₅		17.888	897 ¹ / ₂	1 of 9 ³ / ₄		28.741	882 ¹ / ₄	near 1 of 10		23.494	719 ¹ / ₂	1. 12 ¹ / ₅		20.001				

E X P L A N A T I O N.

Col. 1. The Month.—Col. 2. The Number of wetting Hours in that Month.—Col. 3. The Proportion betwixt dry and wetting Hours. Col. 4. The exact Quantity of Rain, Snow, or Wet, that fell monthly at 75 Miles Distance from where the Duration of it was taken.—Lastly, In the Totals the Proportions of Dry and Wet.—The whole 12 Years is near one wet to $12\frac{5}{7}$ dry. [Place this Table at p. 142.]

Hence observe, 1. That measuring the colligible Quantities of Wet that fall here or abroad, or in different Places at home, we may know the exact Quantity that falls in each Place, *com. Ann.* 2. Different Quantities that fall in different Years. 3. The several Quantities that fell in each Month in a Series of Years. 4. Whether the Quantity that falls in the several Months, bears the like Proportion to the Time or Hours it falls in. 5. We see in the general, that Rains in different Countries, or in several Places of the same Country, fall according to the different Temperature of the Air, or Seasons they fall in, as the Air is warmer or colder. 6. The Quantities falling, which differ according to the Situations; hence Places lying nearest to the Seas, from which come the frequent and longest Winds, especially if near great high Mountains, which break, detain, or repel the loaded Clouds, have the most Rains, as *Lancashire* and some Part of *Westmoreland*, &c. 7. We see from a just Journal kept of the Rains for 10 Years, the Dry is to the Wet about 1 to 3 1-half. 8. We see it is not possible to estimate the Quantity fallen from the Time it falls in; for in *December, January, February, March, May, and November*, these 10 Years fell $66\frac{1}{2}$ Inches in $2447\frac{1}{2}$ Hours; but in *April, June, July, August, September, and October* fell $106\frac{1}{2}$ Inches in 2717 Hours; nay, in *December, January, February, and March*, 43,198 Inches in 1502 Hours. In *July, August, September, and October*, fell 76,213 Inches in 1924 Hours; so that our coldest Months, tho' commonly called the wet Season, have the least Rains, and the warmest the most; as *August*, almost double the Rain, yea, almost three Times that of *December, January, February, and November*, that the Air, being more elastic and cold, supports a greater Weight; but the Cold, being greater, prevents so much Exhalation of Vapours, the Air, being more powerful, at the same Time carries the Clouds more easily and further, and lets their Burden fall in smaller Drops, like thick Dew.

As there is a great Difference in the Quantities of Rain falling in the several Months of the Year, in a Course of Years, so all Places have not their greatest Rains in the same Months; for, at *Townley*, *December, January, February, March, April, and May* were their driest Months, wherein fell $276\frac{1}{2}$ Inches; *June, July, August, September, October, and November*, their wettest, wherein fell 355,40.—In *Upminster*, in 12 Years, fell, in *November, January, February, March, April, and May*, 489,83. In 11 Years, *July, August, September, October, December, and January*, fell 65,719 Inches.—At *Plymouth*, in *January, April, May, June, July, and August*, fell 144,802. In *February, March, September, October, No-*

T 2
vember,

ember, and December, fell 136,807 Inches.—At Southwick, in Northamptonshire, in 16 Years, fell, in November, January, February, March, April, and May, near 139 Inches. In June, July, August, September, October, and December, fell 137 Inches.—In Kent, in five Years, fell, in January, February, March, April, June, July, and September, their seven driest Months, 58,006 Inches. In May, August, October, November, and December, their five wettest Months, fell 56,290 Inches.—In London, in seven Years, fell in their three driest Months, January, February, and April, 24,790. In May, June, and December, their three wettest Months, fell 44,530 Inches.—In seven Years, at Darlington, in their five driest Months, December, January, February, March, and June, fell 36,62 Inches; in their five wettest, July, August, September, October, and November, fell 68,22 Inches.

Had we Mr. William Merle's Observations of the Weather at Oxford, from 1337 to 1343, (seven Years) we should find the Quantities of Rain much greater then than now, as there was much more Wood, and many great Morasses and Bogs undrained then. 1. We have our greatest Rains after the Solstices, especially of the Summer, not after the Winter; the former were 106,69; the latter $54\frac{1}{2}$, which fell in 854 Hours; the former in 477 Hours; hence they are mistaken who think our greatest Rains are about the Equinoxes. 2. Since a Quantity of Rain falling in an Island, Country, or Continent, at a greater Distance from the Ocean or great Mountains, is so much longer in falling in a cold than in a warmer Atmosphere, then, as it comes nearer the Equator, the more Rain falls in the same given Time; the further we recede from that, and the colder the Atmosphere, and the less falls in that Time, till we reach the frozen Poles, whose Frost hinders Rain. 3. Hence the Temperature of the Air, or Contiguity to, or Remoteness from the Sea or lofty Mountains, vary much both the Quantity and Duration of Rains. Thus Italy, Spain, Portugal, and France may have more Rain fall in shorter Time than we; so that measuring their Rains gives us a very imperfect Idea of the Proportion between their dry and wet Weather. 4. Hence we see why some Countries have their stated rainy Seasons, either from excessive Heat or Cold, or from different Winds; and why others may be either flooded or drowned in a little Time, especially if Winds contribute to drive in the Sea or Land Floods. 5. Sudden rapid Thunder Showers, Spouts, or Cataracts, may add greatly to the Quantity of Rain, but little to it's Duration, as we shall see after. 6. If six Years and three Months have 4061 wetting Hours, wherein fell near 133 Inches of Water, taking all Sorts and Seasons of Rains together, then,

then, one Time with another, fell, in $31\frac{1}{4}$ Hours, an Inch of Rain. 7. If 15 Months, *viz.* from *August* 1, 1757, to *November* 1, 1758, (wherein both Quantity and Duration of Rain were taken in the same Place) contained 10,968 Hours, of which 604 were wetting, wherein fell $33\frac{1}{2}$ Inches of Rain; then was the Dry to the Wet near as $18\frac{1}{8}$ to 1. 8. If 604 wetting Hours give $33\frac{1}{2}$ Inches of Rain, then an Inch of Rain fell in about 18 Hours there, one Time with another; but in the other Places one Inch only fell in 31 Hours; so different is the several Durations and Quantities of Rain in fundry Places distant little above a Degree North and South. 9. If upon a good Trial, for a continued Series of Years, the Places situated near high Mountains, Western Coasts, and extensive Moors have an Hour wet in $13\frac{1}{2}$, then should we know the Proportions of dry and wet Weather in both. 10. If, at one Time with another, an Inch of Rain falls in 18 Hours in one Place, and in 30 in another, then the Rain in the former Place will be oftener, or generally much greater or thicker Drops, as so much more falls; hence it comes seldomer, or is sooner over. 11. Hence we see that with us the colder the Climate or Seasons are, from the End of *September* to *May*, the Rain falls more gently or smaller, and in the warmer an Inch in one Hour, or two and a Half in 12 or 13 Hours is rare. 12. Since nine of the wettest Months brought near $48\frac{1}{2}$ Inches of Rain, and nine of the driest only one, then are the wettest Months to the driest near $48\frac{1}{2}$ to 1, or 97 to 2; and the driest to the wettest as 8 to $6\frac{1}{2}$ Inches. 13. On *January* 27, 1746, fell in one Night 12 Inches deep of Snow; and on *November* 30, 1737, fell in one Day and Night, on the wild high Moors, 24 Inches; also on *December* 20, 1743, in 36 Hours, fell Snow 12 Inches deep, which, in 36 Hours more, all went off in a great Flood. This gives us some Idea of the Quantity of Water in that Snow, which caused so great a Flood. But to apprehend this more clearly, let us look back to *January* 5, 1731, wherein fell a Foot deep of Snow; after it had laid all Night a cubic Foot of it, carefully taken up and melted, left five Pints of Water; in a Square thefore of 1700 Yards, there would be above 257,043 Hogsheads of Water, sufficient to raise a Flood without any Rain, especially as it went off so quickly. *February* 1, 1731, a Foot of new-fallen Snow left $4\frac{1}{2}$ Pints of Water; whereas the other, by lying all Night, left five Pints, or a Tenth more. A Foot of Water contains 49 Pints; then that first Snow, by lying, was equal to a Tenth of Water. 14. Hence observe what an incredible Weight of Water our Atmosphere is capable of sustaining, for each Hoghead of Water is equal to 504lb. Weight; 270,937, multiplied by 504, produces 136,552,248lb. But if Snow has laid any Time, 24 Inches of it will double that Weight,

viz.

viz. 273,104,496 lb. An amazing Weight for so small a Column of the Air to support. But if, instead of 12 Inches of Snow, we suppose 12 Inches deep of Rain, like what fell at *Sheffield*, June 20, 1729, then the Quantity of Water got from the like Depth of Snow must be multiplied by 10, as Water is 10 Times heavier than Snow; but the former mentioned Shower, that fell at *Hayfield* and *Wadworth*, were far heavier. These truly seem great Weights supported by the Air; yet they are really small, if compared with some in hot Climates, that we saw in the public News, which fell at *Chander-Nager* on the *Ganges*, near the latter End of the third Decade of this Century. On *October 11* was a Shock of an Earthquake, with the greatest Hurricane and shocking Rain, wherein were lost eight *English* Ships, loaded and bound home. In that Night 20,000 Boats were cast away, and only one saved, by being moored to the Top of a Tree in a small Creek. The Water rose to such a prodigious Height, that in the Woods on the River Banks it rose to the very Tops of the Trees. Several Vessels of 60 Tons were driven two Leagues on the Land, over the Tops of the tallest Trees; some also of 600 Tons were driven on Shore into Villages 200 Toises from the *Ganges*. The Day after all the Country, for 60 Leagues from the Shore, was covered with dead Bodies, computed to be about 200,000, and several Villages were entirely laid under Water. A prodigious Number of Animals of all Sorts, as Oxen, Horses, Tygers, Fowls, and amphibious Creatures, covered the Ground with their dead Bodies. What a prodigious Load of Water must that Atmosphere carry!

Fogs and Mists in the fundry Phases of the Moon, with several Winds, have been thought to portend different Sorts of Weather (tho' I think with great Injustice, considering the vast Distance of the Moon from us); as that in the first Quarter they presaged fair Weather; in the last Quarter, rainy. But to find if there was any Truth in this, I took the Ages of the Moon and Fogs from a 21 Years Journal of the Weather, and observed that in the first Quarter of those Moons, with a Fog, the Wind shifting from North or East to South, the Weather was always bad, even tho' the Mercury stood high in the Barometer. 2. Fogs in the first Quarter, rather than in any of the other three, are 15 Days Rain to 15 Days fair. 3. A South-East Fog in the first Quarter is mostly rainy, tho' the Mercury stand high. A Fog with a South Wind in this Quarter, is commonly a Sign of Rain, however the Mercury stands. 4. A West or South-West Fog often portends good Weather, or that it will soon be so. 5. The Wind shifting from North, North-East, or East to West, in a Fog, presages

presages good Weather, tho' it has been some Time bad. 6. A Fog with a North Wind on a falling Mercury, is bad; but good with a rising Mercury. 7. A South-East Wind with a Fog and a falling Glass, is bad; and so is a South Wind Fog and a falling Glass. In the second Quarter of the Moon all Fogs with a South Wind, whether the Glass be high or low, are attended by rainy or showery Weather till the Wind shifts; if it turn South from any of the other Points, rainy Weather follows. It is the same in the third Quarter, wherein I find 22 foggy fair Days to the seven rainy. In 46 Fogs in the fourth Quarter, 31 were fair, and 15 rainy. 1. Fogs with a North Wind in the second Quarter, with a Glass stationed above changeable, are mostly followed by dry Weather. 2. The Wind shifting from East to West, or from West to East, by North, and the Glass below changeable, a Fog presages bad Weather. 3. A Fog with a low Glass and West Wind, signifies bad Weather. 4. A Fog with a very low Glass, and Wind shifting from East to West, by South, produces dry Weather. 5. A Fog with a South-East Wind (except the Mercury stations near 30) brings bad Weather. 6. A Fog with a Glass near 30, and a North Wind shifting by South to West, has Variety of Weather. 7. A Fog with a North Wind shifting West with a low Glass, is still good Weather. 8. A Fog with a Glass above changeable, and Wind shifting daily from West to East, by South, and at Night resuming it's former Station, is rainy. 9. Fog with a Glass near 30, with the Wind shifting from West to East, by South, is attended with fair Weather. 10. Fog with an East Wind and a high Glass, promises fair Weather; but a low Glass the contrary. 11. Fog with a South Wind and low Glass, is bad; but good with a high Glass. 12. Fog with a very high Glass, and the Wind shifting from North to South, by West, tho' attended with some Rain, is good Weather after. 13. Fog with a Glass above changeable, and still rising, tho' the Wind shift from West to South, yet good Weather still. 14. Fog with the Wind shifting from South to North, by West, and a high Glass, is a good Sign. 15. Fog with a Wind shifting from East to South, and a high Glass, promises well. 16. Fog with a varying Wind and falling Glass is not bad, if the Wind fixes North. 17. Fog with a rising Glass, a Wind shifting from North-West to East, North, or South, is good; but a Fog with a North-East Wind and falling Glass, is bad; but good with a rising Glass. 18. A South or South-East Wind, shifting South-West or West, is bad. But let not a low Smoke about Towns or Villages be mistaken for a Fog or Mist; therefore these Observations are best made in a clear Country Air on a pretty high Ground.

The

The greatest Fogs in these 21 Years were in the Moon's first Quarter, 18 in good Weather, and 18 followed by bad; in the second Quarter, 21 good, and 18 bad; in the third Quarter, 25 good, and 8 bad; in the fourth Quarter, 29 good, and 14 bad: So that the Moon seems to have little Influence to affect our Weather; and if the Moon has not, Comets can have far less, they being at too great a Distance from us to occasion any sensible Alteration on the Earth, seldom coming within ten Millions of Miles of us. That tremendous one of 1680 approached the nearest of any of the known Comets, which are about 40 in Number; that, in it's Descent to the Sun, might approach about as near as the Moon, if it was in the nearest Part of the Orbit when it passed. Nor can Eclipses affect us, they being too remote; nor *Auroræ Boreales*, which are often seen in all Weathers; but brightest and ofteneft in good Weather.

If Thunder and Lightning happen in the Moon's first Quarter, with a brisk South Wind and falling Glafs, it is followed by bad Weather. 2. If the Glafs is above changeable, with a North Wind shifting to South-East, it presages long good Weather. 3. If the Glafs is low, and the Wind South or South-East, tho' it rain at present good Weather soon follows. 4. Thunder, with a West or South Wind, and a pretty high Glafs, presages Rain or Showers for some Time. 5. A Glafs at changeable, and a South Wind, it is showery and rainy; but if the Glafs rises it will be fair. 6. Thunder with a Glafs at changeable, and still falling, and the Wind shifting South, denotes a wet Time.—In the Moon's second Quarter, Thunder on a low Glafs, and Wind shifting from North to East, is a good Sign. 2. Thunder and a high Glafs, and Wind shifting from South-East to North, by East, forebodes fair Weather. 3. If, with Thunder, the Wind veers from North to South-West, with a high Glafs, it tokens well. 4. Thunder, with a Glafs at or below changeable, and a South Wind, threatens Moisture, Showers, or Rain; but if the Glafs is at, or quickly rises above, changeable, it is a good Sign. 5. Thunder coming on a low Glafs and South Wind, if the Wind shifts presently after, and the Glafs rises, it is promising, tho' some Showers may fall. 6. Whilst it thunders, if the Wind shifts from West to South, with a falling Glafs, it is bad; but the contrary if it shifts from South to West or East, with a rising Glafs. 7. If it thunder, and the Wind shifts from North to South-East, with a falling Glafs, it is bad; or if it thunder on a very low Glafs and North Wind; but it is good in a rising Glafs.—Thunder in the first Quarter of the Moon was 9 Times good, and 8 bad; in the second Quarter, 17 Times good,

good, and 8 bad; in the third Quarter, 18 Times good, and 11 bad; in the fourth Quarter, 25 Times good, and 6 bad.

Rainy		Droughty		Dearth or Famine	
1406	1647	1408	1681	1406	1697
7	48	72	84	27	98
27	50	73	85	38	1705
35	63	74	86	39	9
38	70	77	88	40	27
39	75	78	89	51	28
40	82	79	91	56	40
58	83	90	93	69	41
60	87	96	94	85	51
66	92	97	99	86	55
70	93	98	1704	96	56
85	96	1503	13	97	57
86	97	4	14	98	
1506	98	17	15	1512	57
8	1705	40	16	13	
9	9	52	17	14	
13	21	66	18	15	
15	22	68	23	16	
21	24	83	32	21	
22	25	90	33	22	
27	27	91	38	25	
28	28	92	40	27	
29	29	98	41	46	
30	34	99	42	47	
37	35	1600	43	49	
51	39	9	47	50	
55	45	10	48	55	
56	51	12	49	56	
64	52	14	50	58	
66	53	16		61	
68	54	26	75	62	
69	55	35		73	
70	56	36		74	
73		44		86	
74	75	45		87	
80		51		94	
84		52		95	
95		53		96	
96		54		1600	
1611		55		21	
22		66		22	
23		69		30	
		77		49	
		78		50	
		80		73	

From this Table observe, 1. That the same Year may be both rainy and droughty, or a rainy Winter, Spring, or Harvest, and the rest of the Year dry, as several of those were, and the Year 1760 was a dry Spring, an exceeding droughty Summer to *September* 16, when high Winds and shocking deluging Rains to *January* 1, 1761. 2. It is not always true that we should estimate a Year wet or dry from the four Summer Months, on which the Plenty or Scarcity of Corn and Herbage depends; so that if there are large and frequent Rains at that Season, it is called a wet Year, and if seldom and small, a dry Year; for tho' 1755 had a Fourth more Rain than 56, yet the Spring Months Rain of the latter was much longer than of the former; for *April, May, and June* of 1756 had 235 Hours Rain, and 55 had only $63\frac{2}{3}$. The three Hard-Corn Seed Months of 1755 had also terrible long Rains, viz. *September, October, and November* had 385 Hours Wet, and the same three Months of 56 had only 177 Hours. The Seed-sowing Time being wholly rainy, hindered much Sowing, chilled, rotted, and killed much that was sown; and the Earth being full of Water, and little Frost to consume it, or Drought in Summer to evaporate it, the Seed that perished not (if not sown on dry and sandy Ground) run up into Straw, like wild Oats or other Grain. Hence a threefold Cause of Dearth; to which add the Want of Frost in 55, which had only 27 Nights small Frost; hence sown Hard-Corn

was lost several Ways. Likewise in the latter End of Harvest 1739, from *September* to the Middle of *December*, the Earth was soaked and drowned in Water; then came the great hard Frost.—In *September* 1741, to *November*, were great Rains, whereby much Corn was lost in the North of

England and high moorish Grounds; and the cut Corn could not be got dried, but both cut and uncut sprouted, and grew as it stood, which I saw and observed on *November* 10, when travelling in that Country. 3. It may be a wet leaking Year, with much Misting and small Rain, and yet, if warm, a very plentiful Year; and if the moderate Heat is attended with brisk shifting Winds, a very healthy Year, as we found here; for often a long sultry southerly Constitution brings putrid, malignant, or slow nervous Fevers; and a long misting, foggy, cloudy Time brings Intermittents, Remittents, Hemitritians, Palsies, Jaundices, and Dropsies. A long, cold, dry North, North-East, or East Wind produces Inflammations, inflammatory Fevers, hot Scurvies, Agues, and Hæmoptoes. 4. Of the 57 Years in the Table of Scarcity, Dearth, or Famine, 34 were from Rains in the same, or some preceding Year or Years. Of 75 Years Drought, only five of them caused a Dearth of Grain; so that Rains bring a Famine near seven Times for a Drought once. 5. Dearth and Scarcity come from several Things besides Rain or Drought; as from War, Want of Agriculture, inclosing too much, turning Corn Land into Grazing, Idleness, floody or frosty Seed-Times or Springs, severe Colds of the Seasons, profuse Exportation of Corn, and making Scarcity at home; or from the Rich hoarding up Grain and starving the Poor; or from the Earth's Barrenness from over-bearing itself; or from great Rains and Floods having washed the vegetative Principles out of the Ground's Surface; or from washing out or perishing of Seed; or from blasting Mildews, Locusts, shaking Winds, Storms or Tempests, an Enemy invading and over-running a Country. 6. Dearth or Famine rarely prevail here above four Years successively, and that only once in this Table. Thrice it continued three Years each Time, and all the rest only one or two Years together. Tho' there are 57 Years Famine, yet they happened at 34 different Times; and tho' there were 75 rainy Years, they happened at 47 several Times. 7. There has been more Rain in the 60 Years of this Century, than in the 17th Century, which had only six rainy Years before 60; and the last 60 has had 20 rainy Years. The Beginning of the last Century had more dry Years; the longest Drought was from 1651 to 59 (the Winters of 56 and 57 excepted); we have seldom had so long a dry Time together. 8. Thirteen of the dear Years fell in the 15th Century; 24 in the 16th; seven or eight in the 17th; and 10 in the 18th before 61.

Tho' severe and long Frosts are often preceded by long, wet, or rainy Seasons, yet they are not always; for sometimes we find blustering Sea-

sons

sons succeeded by Drought and Heat, as 1557, 58, 60, 69, 78, 86, &c. and perhaps may be the Case of the Summer 61, after four such severe rainy, stormy Winter Months. Some rare Times an extraordinary Hurricane supplied the Place of both, as that of *October* 26, 1703, and that of *March* 15, 1757, both followed by lovely Springs and rich Seed-Times, after a hard frosty Winter of 57, from *November* to *Candlemas*. By these three Ways (mostly the first, seldom the second, and rarely the third) a Period for a Time is put to rainy, wet, moist Constitutions. The first mostly terminates such unhealthy Times, and is ofteneft followed by Drought or Heat; tho' these may not always wholly prevent the Return of rainy Seasons, yet they seldom continue long till one of the above three puts a Stop to them, and brings Drought and Heat.

An excessive rainy Harvest, especially *September*, *October*, and *November*, often presages a frosty Winter or Spring, if not prevented by one of the other two Ways; and if the Frosts last long there will happen some Interval between their coming and the Rain ceasing; for if the Frost comes close upon the Heels of the other, it will quickly be gone. 2. The longer and more excessive the rainy Season has been, the longer and sharper the Frost, coming after a due Interval, may prove, if it terminates the wet Time; should the Frost prove short and mild, it threatens but an indifferent Season, till either it returns, or one of the other two Ways ensues, to congeal, shut up, dissipate, or spend the Vapours. 3. Sometimes before a Dearth, or long Frost followed by a great Drought, the Earth brings forth luxuriant Crops of Corn, Fruits, and Herbage. The more successive Years the Earth is loaded with such rich Products, the greater Room to expect a Scarcity, till the Earth recover it's Fertility by a seasonable hard Frost and lying Snow to retercorate the Ground, and keep it and the Seed warm, prevent the Exhalation and Loss of it's ascending rich vegetating Principles, which had been dispersed and suspended in the Atmosphere, united with Moisture in the Air, and brought down in the Snow; where, and in the Earth's Surface, they were locked up till the Spring, besides the Salts daily ascending to the Earth's Surface. Frost without Snow is not sufficient; for the Nitre in the Snow joined to that in the Air, and the Salts rising out of the Earth with an after genial Warmth, and moderate seasonable Rains, all conspired to make the Earth fruitful. If Frost is quickly succeeded by a long, severely cold, and dry parching Season, or if the Snow and Frost are carried off speedily and impetuously by Floods and Inundations, a Dearth is impending.

In revolving over and comparing several Journals of the Barometer and Thermometer, Wind and Weather, taken by sundry ingenious Gentlemen in different Parts of this Island, I was not a little surprized to find so little Agreement among them, after Mr. *Derham* and Mr. *Townley*; for they seldom agreed one Day in all Respects, whereof there are sufficient Instances above; for at some Distances the Winds often differ not only in Height, but in the Points whence they come; perhaps being often taken at different Times of the Day, or sometimes from rusty Vanes. Barometers and Thermometers differ in their Heights on the same Day; perhaps they may differ in their Balls, Bores, contained Liquors, or in different Situations, Scales fixed on, Aspect, Shape of their Tubes, &c. In one Place a clear Sky, cloudy in another; fair in one Place, misles, hails, rains, or snows in another not far off; fresh in one Place, freezes within one, two, or three Miles; cold in one Place, hot in another, moderate in a third; Thunder, Lightning, and Rain in one Place, and a clear warm Day within a few Miles; in one Place it is a very wet Season, as dry in another; some have far more Rain and wetting Days than others, yet perhaps both at different Times, as they are favoured by the Sea, Winds, and Mountains; one Part of the Country is barren, another is very fruitful; Scarcity in one Place, Plenty in another; healthy in some Places, sickly of sundry Diseases in another; one Disease rife and fatal in one Place, another the like, or more favourable in another, and the intermediate Place healthy. But, exclusive of these Uses, Journals are still useful in other Respects, as a comparative History of the Air and its Effects, and to compare with that of our Neighbours; to shew the fixed or shifting Course of the Wind and Weather, and their Effects in different Places and Situations; the common State of Health, or the general sundry Sorts of Diseases prevailing at the same Time in different Places; to see if these several Things have their certain or uncertain Turns in the same Places; the Signs of their Coming, Effect, Event, and Duration; for the same Sort of Weather and Diseases do not drop alike on a whole Country at the same Time, whether contagious or not, but have their progressive Motion, directed perhaps by Courses and Currents of the Wind, whereof we have sufficient Proof. When a general Epidemic comes, it is some Months or Years in its Progress; but many of them have their Sweep from South to North. Catarrhs come from all Quarters, and finish their Course quickly. Measles and Small-Pox seem to have no Dependence on Air or Weather, but only the Seasons; often the same Disease prevails in several distant remote Places at the same Time, favourable in one, fatal in another.

ther, leaving the intermediate Places either healthy, or afflicted with other Diseases, as has been the Case of the last 20 Years, with the putrid malignant spotted Fever, which began in 1741, and Children's putrid malignant sore Throats, which began the same Year, after it had laid dormant two Years; and flow Fevers do the same, as Air, Seasons, Food, Weather, Soils, Situations, Busineses, or the Use of Non-Naturals vary in several Places; hence a Difference of Diseases, Symptoms, and their Events.

The following TABLES, carefully extracted from the Registers of the several Parishes mentioned, are the Vouchers for what is asserted in this Work from Page 47 to Page 55.

T A B L E 1.

Period I. Part I.

Bills for Foreign Cities.

Period II.

			Born	Married	Buried				Born	Married	Buried
Vienna	from 1717 to 1727		43333	—	59255	From 1756 to 1762			30340	—	36399
Augsburch	1500 1700		285412	80146	326190	1700 1721			19226	5418	16040
Dresden	1617 1700		46423	18629	66460	1700 1724			28913	8581	32422
Freyberg	1617 1700		23648	7231	25326	1700 1718			5565	1488	5289
Paris	1728 1737		168199	3990	182481	1754 1762			155186	—	176969
Besides dead in the Foundling Hospital	1728 1737		—	—	22241						
Amsterdam	1716 1724		52537	16430	32532	In later Years			44349	—	75244
Berlin	1712 1732		52286	14182	52590	Totals			284579	15487	342363
Breslaw	1633 1734		108919	—	125685	Decrease			57784		
Leipfic, in 9 late Years	—		8282	—	13281	Of the 53704 baptized, 30974 were married, and 22730 died unmarried. Three Children and a Half to each Couple.					
Copenhagen, in 4 late Years	—		6012	—	9024	Paris for 1765			19439	4782	18034
19 Cities in Saxony, for 2 Years	—		3211	1488	4009	London 1765			16374	—	23230
Decrease 120812						Leipfic 1765			1437	324	1048
Totals			798262	142096	919074	York 1765			435	162	408
To the Married near four Children to each Couple; of the Births, 579179; Persons married, 251332; of the Born died unmarried, 327847.						Newcastle 1765			1728	—	1463
						Besides 300 more were buried at Newcastle in the Balast Hills.					

Class I. Part II. Period I. Some English and Irish Cities and Towns. Period II.

			Born	Married	Buried				Born	Married	Buried
London	from 1604 to 1691		733381	—	1961456	From 1691 to 1762			956126	—	1415339
Dublin	1666 1681		14765	—	24199	1715 1746			43512	—	77978
Manchester	1573 1626		11568	3058	11599	1744 1762			38985	15079	40579
Doncaster	1547 1624		5543	1843	6882	1721 1762			4218	1355	3975
Stockport	1584 1614		2664	631	2794	1716 1746			3060	1269	4257
Pickering	1570 1637		2652	709	2704	1637 1742			4180	1220	3695
Decrease 1239054						Totals			1050081	18923	1545823
The 12482 married subtracted from 22427 baptized, remain 9945; little more than three Children to each Marriage.						Decrease 495742					
						Not near three Children to each Wedding; and not a Third died unmarried, which shews the unregistered Baptisms.					

Period I. Market-Towns with a small Increase. Period II.

			Born	Married	Buried				Born	Married	Buried
Leeds	from 1572 to 1612		8951	2391	7657	From 1730 to 1746			9454	2796	7900
Liverpool	1661 1705		4489	535	3450	In 15 Years before			1751	7707	2429
Halifax	1539 1562		5611	1399	3837	From 1673 to 1762			25425	10936	24236
Wakefield	1613 1645		4458	1385	5790	1680 1734			9153	2025	8228
Sheffield	1561 1644		11867	3290	9943	1748 1762			10666	2637	8349
Nottingham, St. Mary's and St. Nicholas's	1565 1686		1231	338	971	1742 1762			9009	2180	7290
Birmingham	1610 1620		789	189	560	For 12 late Years			6717	1778	7124
Coventry	1614 1634		1206	229	1155	From 1742 to 1762			8326	3427	7600
Newark	1600 1640		2923	668	2827	1716 1747			3108	1175	3896
Leicester, five Churches	1620 1640		3037	800	2945	1721 1761			9451	1820	11323
Stamford	1630 1640		834	195	784	1752 1762			1035	466	1097
Northwich	1610 1640		1305	260	1079	1700 1733			2204	518	1868
Warrington	1614 1632		3662	814	3388	1716 1746			4618	1670	5293
Malton, three Parishes	1609 1621		733	227	700	1731 1743			814	200	704
Bakewell	1657 1700		1992	720	1883	1700 1735			1301	731	1160
Thorne	1639 1649		560	103	551	1730 1741			580	145	499
Pontefract	1586 1636		4335	1129	4207	1734 1745			1831	691	1627
Kingsbridge	1612 1640		768	167	727	1654 1743			1436	291	1510
Rotherham	1592 1640		5187	1496	4872	For 120 Years			11505	2767	10980
Nantwich	1610 1641		2919	522	2371	From 1710 to 1741			2752	870	2903
Stoke Damerel	1592 1617		186	85	141	1715 1738			2658	704	2267
Gainsbrough	1565 1641		5218	1381	4400	1696 1734			3966	1073	3638
Chesterfield	1562 1635		7098	1744	6226	1742 1762			1990	696	1686
Increase 14445						Totals			135706	42085	129952
Totals			79359	20067	70464	Increase 4554					

Country Parishes.

Period I.

Class II.

Period II.

			Born	Mar.	Buried				Born	Mar.	Buried
Adwick on Dearn	from 1570 to 1643		322	93	263	From 1690 to 1738			170	44	131
Seven Country Parishes, for 10 successive Years each			581	128	379						
Neen-Sellers	from 1558 to 1658		351	26	229	1700	1761		237	26	170
Wisper	1573 1631		863	242	562	1649	1739		952	208	770
Dronfield	1560 1649		4420	1025	3205	1649	1739		5473	827	4379
St. John's in Thanet	1560 1657		3486	839	2528	1657	1734		4365	681	3460
Connisburrow	1560 1640		1227	284	981	1640	1734		1380	338	1204
Bafslow	1574 1629		1115	235	859	1663	1738		2431	330	1789
Sprodburrow	1559 1643		805	268	750	1654	1735		665	75	600
Eyam	1630 1648		542	87	370	1648	1737		2920	484	2280
Brotherton	1571 1628		513	181	443	1635	1738		1403	280	1283
Thryburg	1600 1648		294	90	197	1648	1734		516	154	409
Ackworth	1567 1644		1209	271	890	1644	1737		1324	285	1045
Mattersey	1538 1637		963	245	851	1663	1734		672	175	644
Glentworth	1590 1640		209	82	201	1640	1734		401	128	404
Balbour									1252	349	1009
Grant's Parish, Hants	1559 1659		6338	1568	5290						
Warfop	1538 1738		653	200	375						
Norwell	1559 1737		2546	655	2036						
Totals			26437	6519	20409	Totals			24161	4626	19568
Increase 6028						Increase 4593					

Period I.

Class III.

Period II.

			Born	Mar.	Buried				Born	Mar.	Buried
Scarcliff	from 1628 to 1645		180	42	153	From 1692 to 1735			262	88	223
Elmton	1599 1648		249	67	227	1648	1700		360	51	291
Yealmton	1630 1646		391	91	336	1646	1739		1753	594	1573
Kingsbridge	1612 1643		768	167	727	1654	1740		1436	291	1510
Darton	1562 1632		977	287	750	1632	1738		1324	285	1045
Laughton	1583 1643		915	272	776	1647	1734		1273	390	1096
Wentworth	1555 1629		684	190	567	1660	1733		2071	380	1684
Heatherfage	1631 1655		674	126	561	1666	1736		1339	393	1564
Ichley	1598 1637		1592	370	1374	1696	1737		833	131	681
Minster in Thanet, Kent	1562 1734		2935	898	2830						
Soly-Hull, Warwickshire	1620 1643		866	162	646	1732	1762		1590	355	1291
Quinton, Gloucestershire	1620 1643		309	66	252	1732	1763		541	75	292
Kingston, Warwickshire	1620 1644		250	31	176	1732	1763		650	95	472
Leamington	1620 1644		207	32	122	1732	1763		201	31	166
Bishop's	1620 1644		112	34	79	1732	1763		304	77	198
Totals			11109	2835	9576	Totals			13937	3236	12086
Increase 1513						Increase 1850					

Period I.

Class IV.

Period II.

			Born	Mar.	Buried				Born	Mar.	Buried
St. John's, near Laughton	from 1546 to 1636		200	85	411	From 1637 to 1734			476	237	506
Glossop	1620 1654		1122	*	1221	1654	1737		1874	921	1858
Hearn, in Kent	1558 1645		2468	674	2577	1661	1734		2005	410	2186
Brodsworth	1539 1589		249	100	161	1692	1735		262	88	223
Totals			4039	859	4370	Totals			4617	1656	4773
Decrease 331						Decrease 156					

* N. B. The Marriages of both Periods are included in the second Period.

Small Market-Towns more healthy.

Period I.

Period II.

			Born	Mar.	Buried				Born	Mar.	Buried
Selby	from 1621 to 1636		820	264	569	From 1721 to 1736			631	208	604
Bradford	1600 1640		7637	2208	5350	1700 1739			5760	3352	4830
Huddersfield	1606 1724	14012	3373	11863		1732 1759			5462	1258	3076
Barnsley	1569 1624	2112	632	1686	49 Years before 1762				2826	562	1930
Tickhill	1567 1611	1575	431	1298	1672 1738				1832	464	2000
Mansfield	1559 1600	1617	413	1294	1746 1762				1525	363	1289
Kefwick	1566 1645	7164	1887	5325	1645 1739				3594	941	3121
Wigton	1608 1646	1938	475	1406	1661 1737				3345	600	3215
Cheltenham	1558 1648	4004	839	2607	1648 1738				3947	635	3610
Kingscliff	1590 1640	1297	306	950	1642 1738				2651	394	2357
Tiverton	1560 1640	11830	3178	9335	1640 1665				4363	1183	3538
Cranbrook	1560 1640	7200	1917	5755	1640 1650				976	196	1066
Prefcot	1632 1646	1765	450	1033	1727 1739				1345	333	1631
Uppingham	1571 1616	1001	376	679	1700 1758				2576	374	1984
Bury, Lancashire	1591 1613	2129	696	1709	1727 1748				3385	993	2486
Hartlepool	1566 1643	942	242	705	1705 1738				794	170	551
Banbury	1575 1627	3809	1060	2873	1688 1738				3650	1108	3544
Leuton	1613 1639	2397	380	1767	1721 1745				1733	524	1856
Weldon	1595 1655	1164	247	903	1700 1747				1314	230	965
Melton-Mowbray	1540 1640	2149	494	1594	1700 1741				1859	475	1727
Kidderminster	— —	—	—	—	1721 1757				4670	1253	2852
Knaresbrough	1561 1581	1028	249	829	1731 1751				1731	428	1571
Ripley	— —	—	—	—	1721 1763				968	229	779
Totals			77590	20117	59530	Totals			60937	16273	50582
Increase 18100						Increase 10355					

Class III.

Small Market-Towns with single Pe-
riods only.

Some decreasing Towns with single Pe-
riods.

			Born	Mar.	Buried				Born	Mar.	Buried
Peniston	from { 1644 to 1762		6005	1253	4313	Market-Weighton from 1727 to 1733			168	30	185
Hope	1600 1643		2833	539	1938	Newcastle, for 12 late Years			6469	—	6750
Hull	1700 1762		7211	850	5584	Norwich, for 28 late Years			26106	—	31810
Heatherleigh	1713 1733		6116	1831	4646	Dalton from 1655 to 1738			3893	—	4167
Oundle	1659 1745		2045	445	1904	Ely, for 80 late Years			10752	3123	11423
Scarbrough	1734 1739		270	79	261	Preston, for 12 late Years			1716	450	1941
Whitby	1729 1733		755	229	743	Derby, for 4 late Years			743	237	868
Burlington	1730 1733		391	63	344	York, for 7 late Years			2785	400	3466
Lincoln	1729 1732		279	81	251	Ulverston, for 47 late Years			2266	460	3121
Hallaton	1730 1733		695	253	539	Bawtry from 1654 to 1734			1344	375	1486
Middlewich, Chef.	1723 1743		437	76	412	Sleaford 1653 1737			3420	817	3627
Pattrington	1679 1735		3913	794	2903	Howden 1730 1734			229	93	334
Littleport, for 80 Years	1713 1733		447	92	379	Ketterin 1737 1747			531	182	654
Bridgenorth, in 12 Years	— —		1880	398	1772	Sandbach 1653 1684			1206	340	1315
Totals			34032	6983	26700	Tiddefswell, for 24 Years			1283	276	1302
Increase 7332						Chapel la Frith, for 60 late Years			2005	462	2287
						Hitchin, Hert. many } 1747 to 1762			981	271	1048
						Diffenters					
Wirksworth, from 1700 to 1734			4254	906	3707	Totals			65897	7516	75784
						Decrease 9887					

T A B L E II.

Period I. Several Classes of Country Parishes referred to from Page 52 to Page 56. Period II.

			Born	Mar.	Buried				Born	Mar.	Buried
Churston	from 1543 to 1643	829	261	496	From 1656 to 1740	446	232	388			
Eckington	1559 1645	4033	937	2334	1645 1738	3709	685	2707			
Weston, C. Sutton	1574 1617	328	67	175	1691 1717	483	76	369			
Raunds	1610 1646	823	168	566	1646 1701	1348	178	1232			
Kirby	1620 1648	543	173	346	1648 1737	1824	394	1553			
Bradfield	1559 1649	4377	881	2989	1649 1734	1273	390	1096			
N. Luffenham	1573 1642	783	161	417	1642 1742	990	159	809			
Wickersley, 60 Years before	1640	268	145	160	1640 1734	653	96	569			
Stuntney	1545 1620	253	69	172	1620 1735	216	70	186			
Foxton	1560 1640	804	191	590	1653 1737	780	256	684			
Hatfield	1567 1651	3073	1008	2309	1652 1734	3173	948	3927			
Hope (Peak)	1600 1643	2833	539	1930	1700 1761	4578	960	3702			
Felkirk	1609 1647	790	189	500	1647 1683	902	164	677			
Walcote	1558 1645	557	149	334	1645 1742	391	92	328			
Medbourn, C. Holt	1588 1688	1100	163	751	1688 1738	685	138	447			
Newton-Ferrers	1600 1641	688	222	465	1641 1739	995	375	753			
Brathwell	1559 1739	2075	486	1604							
Southwick, for 189 Years		765	209	568							
Royston	1558 1637	3021	799	2334	1637 1738	6664	1595	4770			
Slowston	1559 1743	933	191	619							
Edensore, for 190 Years.		1815	353	1294							
Silkstone	1558 1625	1429	312	1080	1656 1762	5050	1451	3675			
Barnburrow	1558 1763	1355	331	1080							
Marr	1571 1642	355	122	259	1653 1737	258	65	199			
Yolgrave	1558 1642	2101	629	1546	1644 1739	4501	933	3346			
Darfield, for 20 Years before	1653	856	217	681	1653 1737	3262	468	2790			
Stoke-Hammond	1537 1644	698	169	427	1649 1738	487	121	371			
Bolsover, 31 Years before	1647	711	306	626	1656 1711	1195	209	950			
King-Sutton	1537 1645	669	160	436	1645 1738	1806	420	1205			
Matlock	1571 1700	3340	617	2496	1700 1734	1109	287	858			
Church-Anston	1559 1738					1900	390	1281			
Darley	1610 1736	3699	847	2768							
Mercet	1570 1636	599	99	406	1651 1742	804	119	604			
Wing	1625 1661	228	40	153	1700 1743	278	67	238			
Ecclesfield	1558 1614	2455	842	1875	1620 1763	11434	2866	7954			
Tankersley	1598 1648	560	163	388	1648 1743	1117	424	908			
Hansworth	1558 1645	1266	363	918	1666 1746	1749	378	1305			
Carcolston	1571 1640	604	121	407	1640 1735	528	87	467			
Mexburrow	1567 1737	1990	241	1537							
Slanton	1559 1737	912	153	591							
Bolton on Dearne	1619 1737	1551	411	1182							
Aston, 72 Years before	1736										
Beely	1590 1637	309		208	1700 1737	923	284	734			
St. John Baptist, Kent	1560 1606	1324	287	845	1606 1734	370		114			
Pannel, for 75 Years						6527	1233	5143			
Temple-Sowerby						1226	147	867			
Orston					1670 1736	324	80	276			
Sutton cum Duckington					1702 1737	327	61	241			
Brampton-Bryan					1661 1715	481	76	326			
Tinsley, for 27 Years					1721 1761	351	53	260			
Owick						53		33			
Harthill					1695 1738	482		370			
Great Shefford					1586 1738	1964	449	1540			
Acklam					1747 1757	148		65			
Bucknill, Herefordshire					1683 1725	302		193			
					1721 1762	443	64	331			

Totals 57702 | 13791 | 40872

Totals 78509 | 17240 | 60841

Increase 16840

Increase 20756

Period II. of Clafs I.

Period II. of Clafs II.

				Born	Mar.	Buried					Born	Mar.	Buried
Great Shefford, Berks	from 1747 to 1757	148	—	65	Ashover	from 1700 to 1734	1254	199	992				
Collingham by Wetherby	1721 1764	396	76	216	S. Luffenham	1682 1740	813	159	642				
Walton by Tadcaster	1752 1763	55	—	20	Bacton	1664 1742	400	85	313				
Sutton in Ashfield	1731 1763	1526	288	800	Ravenfield	1563 1731	425	96	329				
Hoyland on the Hill	1700 1762	1564	312	975	Weatherflake	1671 1737	392	124	306				
Cawthorn	1704 1763	1189	294	866	Hickleton	1695 1737	172	55	134				
Hambleton and Lyndon	1560 1693	562	128	356	Rinmore	1660 1740	347	81	267				
Wortley	1677 1762	1653	—	1113	Althucknell	1662 1739	774	220	596				
Dewsbury	1735 1762	4022	944	2171	Hemsworth	1685 1738	766	173	619				
Thornhill	1743 1761	817	111	523	Langworth-Basset	1686 1738	193	38	131				
Kirkheaton	1706 1762	4022	1038	2383	Almstree	1721 1761	666	112	514				
Kirkburton	1749 1762	2158	479	1139	Wath	1673 1734	1716	488	1525				
Winstre, for 14 Years	— —	580	77	394	Badsworth	1645 1738	1030	—	867				
Cumberworth, for 80 Years	— —	629	113	385	Sandall	1653 1737	327	—	290				
Acklam, for 55 Years	— —	417	99	271	Coulton	1660 1739	1320	—	1070				
Milson, for 144 Years	— —	506	91	363	Pennington	1653 1738	490	—	390				
Clown	1740 1762	213	25	174	Harts	1670 1738	1182	—	967				
Kirkby-Islet	1664 1738	1595	—	1195	Elton, in 5 Years	— —	68	18	57				
Pleasley	1644 1739	956	183	657	Burrington, Her.	1722 1762	257	65	190				
Whiston	1654 1737	1247	217	831	Totals 12592 1913 10199								
Todwick	1673 1734	268	60	170	Increase 2393								
Steinton	1556 1738	633	174	472									
Firbeck	1721 1746	134	36	94									
Fairfield, or Buxton	1708 1735	508	101	377									
Newbottle	1650 1737	533	200	375									
Aynhoe	1653 1738	964	100	698									
Almondbury, for 20 late Years	— —	4807	1269	2909									
Stokerston Register being defective, entire Number	— —	285	80	193									
Ealand } from { 1559 1579	1559 1579	1765	—	1003									
Thorp-Arch } 1742 1762	1742 1762	3547	—	1835									
14 small Parishes, in a Series of late Years, from 8 to 20 apiece, 7 of the Parishes	1714 1764	350	—	224									
				1408	111	1024							
Totals				39457	6495	24271							
Increase 15086													

Class III. Period II. only.

Class IV. Period II. only.

			Born	Mar.	Buried				Born	Mar.	Buried
Bonfall	from 1700 to 1731	845	174	788	Wilburton	from 1700 to 1734	350	103	356		
Castleton	1653 1745	2368	—	2028	Cromwell	1650 1734	407	174	472		
Elkley, for 15 Years	—	83	5	83	Barnby-Willows	1719 1736	65	44	79		
Kirby-Theward, for 67 Years before	1738	503	118	457	3 Fen Parishes, for 8 Years	—	281	84	283		
Kinalton	1703 1737	205	110	203	Horndon, Essex, for 12 Years	—	108	24	158		
Wellham	1695 1737	86	75	79	Littleport, Ely, for 60 Years	1890	404	1962			
Langton	1661 1737	970	287	859	Mucking, Essex, for 12 Years	62	9	119			
Sutton	1697 1737	537	93	455	Hawksworth from 1659 to 1735	351	115	370			
N. Collingham	1641 1737	679	162	651	Screaton	1652 1735	399	92	440		
Thorp-Salvin	1673 1737	281	57	274	Egg-Buckland	1653 1740	923	343	1028		
Wales	1700 1737	265	25	233	Aveton-Giffard	1660 1740	1404	356	1425		
Thornscore, for 62 late Years	—	216	71	184	Bickleigh	1677 1740	438	137	408		
Streatham	1660 1734	1625	—	1508	Rothbury	1659 1737	5113	602	5185		
3 Heath Towns, for 8 late Years	—	258	110	224	Oddingham	1654 1738	1202	—	1208		
Carfington, in 22 Years	—	120	58	118	Orset, Essex, for 12 Years	—	186	—	255		
Rawmarsh	1653 1734	1104	307	950	Wrangle, for 40 Years	—	820	—	852		
Long Preston	1712 1737	711	156	637	Leak	1694 1734	1062	—	1178		
Cathorp, for 70 Years	—	237	70	205	St. Mary's, Warw. 1732	1763	2530	1139	2762		
Chilmerton	1657 1720	713	124	687	Totals 17591 3725 18540						
Taxall	1685 1740	929	166	917	Decrease 949						
Ashford	1623 1720	850	192	825							
Whitwell	1653 1739	839	132	705							
Heath	1654 1739	671	109	559							
Cuckney	1642 1739	1531	492	1451							
Ousby	1663 1727	418	126	345							
Horninghold	1661 1721	311	77	259							
Stony Middleton	1715 1735	297	50	226							
Peak Forest	1728 1740	190	130	154							
Taddington	1714 1734	263	18	257							
Dinnington	1654 1734	176	36	161							
Great and Little Horroroden, for 60 Years	—	171	—	168							
Upminster, for 100 Years	—	1384	—	1257							
Wharam-Piercy	1685 1738	194	—	139							
S. Collingham	1558 1737	2502	624	2421							
St. Nicholas, Warwickshire	1620 1763	1929	448	1920							
Hooton-Pagnal	1650 1738	763	—	703							
Totals			25224	4602	23090						
Increase			2134								

Longston from 1639 to 1737 | 3240 | 906 | 3066

Just as the last Sheet of my Comparative History was printing off, PUBLI-COLA's Letters appeared in the London Papers, the most judicious, seasonable, and necessary at the present distressing Juncture, of any Thing we have had lately from the Press; and as they are of the most extensive Nature, writ with the profoundest Judgment, convincing and persuasive Arguments, and give the clearest Causes and properest Cure for our present most pressing Evils, I thought it a great Loss to the present and future Ages, that they should only be inserted in a News Paper, to be thrown aside and forgotten after a Day's Perusal, or printed in a Pamphlet, which is only a Month's Life: I have therefore, by the ingenious Author's Consent, inserted them at the End of this Work, there to be preserved to Futurity; and tho' the Printing and Paper are an additional Expence to me, yet I hereby promise that the Subscribers to this Work shall not be charged on that Account above the Price fixed in the Proposals, as I could not in Justice omit several of them, which have so close a Connexion with some Parts of the above Work.

PUBLICOLA's LETTERS,

TAKEN FROM

The PUBLICK LEDGER *and* GENERAL EVENING-POST.

Floreant gratæ populo favente

Literæ plausu, resonantque late

Hoc et in seculo, vigeantque dignæ

LAUDE FUTURO.

L E T T E R I.

THE unhappy Effects of Slavery, be it of what Kind soever, are but too obvious in all Countries into which it has become introduced, of which none can be more fatal, and at the same Time more obvious, than its Tendency to introduce Wretchedness, and therewith Desperation.

People abhor Tyranny, as they resist Oppression, from an Impulse of Nature, implanted by the Hand of God; from which no Idea of divine Rights, however carefully inculcated, no allowed Sacredness of Character or Person, nor any Awe of Authority made more solemn by the Parade of Splendor, or Insignia of Power, will be able to restrain them; for when the Persecutions of one, or the Pressures of the other, become intolerable, those

those who experience them will seek for such Remedies as are obtainable, in their own Defence. Representations, if to be hazarded, are then seldom found of Efficacy, and therefore desperate Measures are generally thought preferable, and suited to Causes of Provocation, or the Genius of those to whom it is given: If in the Cause of Rights and Liberty, then it will occasion Resistance, and perhaps, in the End, Revolution, as has, in ancient Times, been the Case in all Countries of Freedom, be the Degree possessed what it might, and of later Ages in the *Low Countries*, *Portugal*, this Kingdom, and at present in *Corfica*, and towards which there have likewise been Attempts in other Countries.

In those Nations where Despotism has become established, there are four Causes of such extraordinary Effects; which are, extreme Severity, sudden Terror from without, occasioned by internal Mismanagement, Hunger, and Religion; all of which frequently occasion sudden Insurrections, sometimes violent Revolutions, and the slower Operation is Desertion. The two former of these Effects have been experienced often in *Turky*, *Barbary*, and *Russia*, as in *Spain* it lately was, and in *Portugal* may be expected; as at one Time or another, from the present pernicious System of that evil Government, it must assuredly and effectually happen.

The third Effect, which I have mentioned, is continually and strongly operating in *Germany*, *France*, some Parts of *Italy*, *Greece*, and I wish I could not likewise add, to a Degree that should be alarming, in the whole of the *British European* Dominions.

Experienced Want and Apprehension of Injuries will either, and most powerfully together, prompt People to hazard any Experiment, from Hopes of Change for the better. Hence do we see the miserable Natives of *Germany*, that Region of Tyranny and Oppression, emigrating in Shoals to whatever Country will receive them. Of this Disposition in them, from Provocation at home, we have a late striking Instance in the public Accounts from *Russia*, where, we are told, such Numbers of *Germans* had arrived, in Consequence of the Invitation thereto given some Time ago by the *Czarina*, that even a contagious Distemper, which alarms the Government, has broke out among the several Thousands that have been assembled at *Orangeboom*, in order to their being distributed, in Colonies, upon the immense Tracks of waste Land in that vast and savage Empire.

Pressed by Wants, and galled by Injuries, as these unhappy and ignorant People were in their own Country, they readily accepted any Invitation to another, in the Hope that any Change might prove for the better, for they thought none could be for the worse; not adverting to the Causes of a Want of Population in *Russia*, which are no other than Regal and Aristocratical

cratical Despotism, and almost an entire Want of national Civilization; for there the Inhabitants of Lands are all personal Slaves to their Lords, and as much his Property as Cattle, as all are to the Sovereign; which double Kind of Thralldom makes Barbarism insurmountable, and therefore Prosperity, Security, or Happiness could be little hoped for in that Country.

This Readiness, however, to embrace any Opportunity for Change, serves evidently to shew, how extreme the Wretchedness must be of their original Condition. But I believe my Authority can be relied on for still a more demonstrative Proof of this Sense of Wretchedness in the lower Order of *Germans*, which was, that the poor Emigrants from that Country, who had two Years ago become abandoned in this, by those who had tempted them from home, and were here by public Contributions relieved, sent to *America*, and settled in *South-Carolina*, were hardly planted in their *American* Townships, before they wrote pressing Letters to their Relations and Friends in *Germany* to dispose of what Property they had, and embark with the Produce of it, in order to partake in *America* of Blessings and Felicities to which they were Strangers at home: And I most heartily wish I could have Reason to doubt of the great Frequency of like Invitations being sent to the Inhabitants of these Kingdoms, to the producing of what should be considered as most unhappy Effects, occasioned by Causes truly lamentable at home; which Causes have been furnished by an unhappily mistaken Policy adopted by those of the Landed Interest, and of which they wanted the Penetration to foresee the Effects that were natural to be produced.

These first Effects of Slavery and Wretchedness in a People, be the Causes of them in whom they may, I have shewn to be natural and sure, by the Examples which I have produced; and as I address myself not to the Passions, but the Reason and Experience of Men, nor in the Cause of any self-interested Party, all of which are baneful in their Operations, I hope for the most serious Attention of my Readers, to a Series of Letters which I shall write and publish, on a Principle of genuine Patriotism, and Good-will to my Country.

PUBLICOLA.

LETTER

L E T T E R II.

————— *The universal Cause*
Acts not by partial, but by gen'ral Laws.

POPE.

WE need not attribute to the extraordinary Interpositions of Divine Providence, what are so obviously to be traced out as the natural Effects of human Causes, when they happen to arise in the Course of either private or public Affairs; and therefore all national Events are, as they may happen to prove, to be attributed to the Wisdom or Weakness of a People, or of those who are entrusted with the Government of them. This Rule of judging, however, is not to be applied to particular Matters with which Accident can interfere; but it may be so, with Certainty, to the framing and prosecuting Systems of Policy.

The System of Colonizing is natural to trading States, on a Principle of Interest, which influences all; but then Discretion therein is as needful as in every Thing else. Independence is an Advantage to which all Communities as well as Individuals will naturally aspire; and therefore it must always be imprudent in the superior State, to contribute so far to the strengthening of the inferior, as to raise it to a Superiority or Equality in Power; because in the latter Case it will become impatient of Subordination, and in the former it will cast it off; for Gratitude, or even Attachment of any Kind, will never operate in general Communities to the Prejudice of their own Interests.

On these Principles of judging, and they certainly may be pronounced sure ones, it cannot be deemed good Policy in *Great-Britain* to endeavour at accelerating the Population of her continental Colonies in general, even at the Expence in People of other States, and much less at her own. Where there are immense Quantities of uncultivated Lands, great Stimulations to Industry, and no Temptations, from Luxury or Difficulties, to the Preference of a State of Celibacy, Population will naturally increase at a very rapid Rate, as we find it actually does on the Continent of *North-America*, where they double their Numbers by Propagation in little more than twenty Years; which is surely an Increase swift enough for our Interest and Security, whose Influence there must decline in Proportion as their Population augments.

It should therefore be our Policy to let them go on increasing from their own Numbers, without exterior Aids therein, which we ought rather to obstruct than encourage; while by all Means we should endeavour to increase

crease our Stock of People at home, from this indisputable Maxim in Policy, that *in Proportion to the Numbers of useful Subjects, will be the Strength and Riches of a State.*

There are *North-Americans* who estimate the Number of People on that Continent to be four Millions; and they all allow they double their Numbers by Procreation, at farthest, in every five-and-twenty Years; but if we suppose the Number of white Inhabitants to be no more than two Millions, they will then, by natural Increase, become four Millions in twenty-five Years, eight Millions in fifty Years, sixteen Millions in seventy-five Years, and thirty-two Millions in an hundred Years; but if they have four Millions now, then in an hundred Years their Increase of Numbers will be to sixty-four Millions: And what then will become of our Awe and Power over them, tho' we had Stamp and every other Kind of Taxes established there, and, with Herds of Revenue Officers, an Army of an hundred thousand native *Britons*? Alas! Hundreds of such Instruments will not be able to controul, by Force, Millions of Men, whose Hearts glow with the Flame of Liberty; and therefore, notwithstanding all that our aristocratic or factious Politicians affect to say about the Surrender of Authority over the Colonies, it cannot be by mere Power, or otherwise than by the wisest and most conciliating Policy, that we can possibly long keep them in a State of Dependency. Our right Scheme then must be to reconcile Interests, and make it theirs to adhere to us; and, in Maturity of Time, to let the Tie of Dependency resolve gradually, as it naturally will, and willingly as it may be made to do, into that only of Kindred Affection and grateful Good-will; when as mere Friends they will become more useful to us than they now are as Dependents, from the immense Extent of their Numbers.

With their natural Increase of Population our Advantages may be made, by good Management, to keep Pace. Every Man must naturally wish to acquire Land Property, and when he has it to improve it; therefore, with the Immensity that there is of ungranted and unoccupied Land on that Continent, Ages may be made to pass off with extending a scattered Population in most or all of the Colonies, whose Pursuits will chiefly be in Agriculture, and what may be immediately consequent thereof, Distilleries, &c. which with their Fisheries and Mineral Pursuits, all of which cannot materially interfere with our national Trade, and many of them may be made greatly serviceable to it; I say, with a right Attention, this Kingdom may keep the *Americans*, with their natural Increase of People, in a scattered State for Ages, and every way highly contributive to its own Power and Prosperity: But it cannot be for our Interest to aid their Po-
Y
pulation

pulation by Supplies from other Countries, and it must be destructive to us to do it from our own, because either of them will be hastening them into the very State of Population which will be most dangerous to ourselves, that of peopling large Towns and Cities, which must introduce all Kinds of Manufacturing; so that supplying them with Artists from other Countries to supplant us, and from these Dominions, politically, it may be said, to cut our own Throats, or for draining our political Body into a Consumption, in order to make theirs so full and vigorous as to get the Power over our own, ought to be considered as a political Phrenzy.

The Sum of our national Policy then is, with respect to the Continent Colonists, to encourage their Agriculture, Fisheries, Mineral Works, and every Branch of Trade dependent thereon, except Manufacturing, however not with regard to Distilleries; but by no Means to aid their Population from other Countries, because it is now become unnecessary; nor from our own, because pernicious to ourselves, *so as to drain our Country of its Natives, or to draw too speedy and great a Resort of Foreigners, both which may be hurtful to us*; and at the same Time to use every Means at home for lessening our Debts and Taxes, extending our national Population by the Improvement of Lands, the Encouragement of Arts, Increase of Manufactures, and the best Corrections of our political Systems, as well as of our national Police, in order to enable us to reap every commercial Advantage from the increased Numbers of *America*, and to extend every other beneficial Branch of our Trade by the only possible Means, which is that of Accommodation in Prices, from cheap Living and Labour.

P U B L I C O L A.

L E T T E R III.

I Have endeavoured to shew, that Population may become increased too fast for our Interest on the Continent of *America*, but which never can be the Case in *Great-Britain*.

The Symptoms of a decayed Constitution are Luxury, Profligacy, and Corruption; those of a declining State are oppressive Taxes, the Prevalence of partial Interests, factious Confederacies, enormous Species of Rapacities, a Confusion of Order, a defective Police, and a Diminution of Numbers.

How far, on either Point, such is become our Case, I shall leave others to decide. But I will venture to assert, that instead of being solicitous to people *America* in Haste, it should be our ceaseless Endeavour to cultivate or improve every waste Spot of Ground in this Island; and, by affording the

the greatest Scope and Encouragement to honest Industry and useful Arts, to extend home Population to the utmost Degree possible, because therein lies the only Source of all Riches and Power.

No Man, who is not curst with invincible Ignorance, will pretend at this Time to suppose that Trade is not the single Source of abundant Population, on which all national Greatness depends; and this being generally allowed, as is really the Case, it should follow to be deemed insufferable for any partial Interests to obstruct what is for general Good: But it is the Cause of still more warrantable Indignation, if this should be done too in Favour of Interests that are mistaken. Yet such is the Case with regard to any Measures that contribute to the making of Provisions dear, on the View of increasing private Incomes, and the nominal Values of Estates; for no Augmentation of Income will enrich a Man, if the Means of making it, at the same Time, more than proportionally serve to increase necessary Expences, which is actually the Case with regard to the higher Prices of Provisions occasioned by the uniting of Farms, and the Bounties on exported Corn; for Landlords do not only pay more for what Provisions they consume in their own Families, but also higher Prices for every Thing else, as Profits and the Pay of Labour of all Kinds must and will be proportioned to the Prices of Provisions, or Means of Subsistence; and therefore those of the Landed Interest reap even less than ideal Advantages from what is really undermining the great Interests of the State.

Affluence will every where less consist in what Lands lett for, than in what Money will procure; so that if a thousand Pounds a Year will go farther in some Circumstances of Things than two thousand will go in others, the former of Course will make the more affluent Condition. This is actually the Case of the Landed Gentlemen at present, who do not in general find their Incomes go farther than heretofore, from the augmented Prices of every Thing, in Consequence of the dear Means of Living, and the increasing Poor's Rates, from the spreading Miseries which are so created, while the State is greatly injured by the Diminutions of Trade and People, from our supplying rival Nations with Bread and Beer cheaper than they can be eat and drank by our own Workmen, which make such an Increase of Wages necessary, as causes a Decrease of our Trade in exported Manufactures, by far the most profitable, and of Course most useful to the State; while the only Kinds of People who are really benefited by this fatally wrong Policy, are those whose Skill and Property are alike employed to the greatest Injury of their Country, such as hoarding and monopolizing Farmers, engrossing Jobbers and Dealers of various Denominations, down to Carcass-Butchers, Salesmen, Forestallers,

Regulators, and all *London* Dealers in every Species of Provisions, even to the Sellers of Bacon, Butter, and Eggs; all of them People whose Profits are now made the most exorbitant; though, by the Order in which they rank in the Community, and for the Good of the State, they ought to be kept in the most moderate Degrees, being all of them circumscribed in almost every other State, and antiently were in this, as we see by the Remains of eluded Regulations with respect to Millers and Bakers, whose Allowances for Labour are expressly prescribed by Statutes.

What, it may be well asked, has the Public at large been benefited by all the Improvements that have been making, from the Revolution to this Hour, in Lands, Agriculture, Pasturage, and, in short, every Thing that regards the Subsistence of the Public? since during that Period of Time, and more especially within the last twenty Years, in which the Numbers of national Inhabitants have been thought greatly on the Decline, the Prices of all Provisions have been increasing, Bread excepted, for some Time past, but now even That is become on a Footing with the rest; I say, of what Avail to the national Community have all new Discoveries and Improvements been? Yet we have been continually hearing of the Blessings that from Time to Time they were to produce, which however have produced such but in Idea to Landlords, though solidly great to the whole Train of worthy Wights who are mentioned above.

Where can be the Justice or Policy of limiting the Wages or Earnings of Workmen of every Kind, who may, with Propriety, be considered as the very Pillars of the State, while the Rates of Provisions are unregulated, by which they are to subsist? Honour as well as good Policy requires the latter should be proportioned to the former, and that Bounds therein should be prescribed, on no Pretence to be exceeded. Are the most useful People less deserving of Care than serviceable Cattle? And no Man is so unreasonable as to require Labour from the latter, without their being well fed and taken Care of. Strange then it must appear, that we should think of treating our necessitous Fellow-Creatures worse than we ever think of treating Brutes. None of those Dealers have the intrinsic Merit of Workmen, because they do not add to the national Stock of Wealth; nor do they spring from, or move in, a superior Order of Life: Why then are the latter to toil under Restraint, and the former to act without any in their Dealings?

This is a Topic so copious as to require farther Discussion, and therefore I shall continue it in my following Letter.

PUBLICOLA.

LETTER

L E T T E R IV.

THE very Basis of the most valuable of all Commerce, that of exported national Manufactures, is unquestionably the cheap Means of Living. Where there is no Want of Workmen, Labour can never bear more than its natural Price, and the natural Prices must be every where what will procure a Subsistence suitable to the Conditions of Men. With cheap Provisions, therefore, Labour may easily be kept at low Rates; but where the former are dear, the latter must be proportionable; and as the Rates of Labour, above all Things, affect the Prices of Manufactures, and Accommodation in the latter being the only Means of securing them a Preference and Sale at foreign Markets, it must follow to be pronounced, that on the low Prices of Provisions all such Kinds of Traffic will depend as are the great Sources of Population, Wealth, and Power to this Kingdom. And agreeable to this Principle is, and ever hath been, the Policy of every wise Nation upon Earth, especially trading ones; nay, where they are not Commercial, but Military States, it ever has been, and must be considered as the first indispensable Duty of Government, (and the Neglect of it is always dangerous) to secure Supplies of Provisions to the People at Prices that are suited to their Circumstances; for the unalienable Dues of good Subjects must be every where the fit Means for subsisting, which Government should secure to them.

The *Dutch* are said not to grow Corn enough in the Year for feeding them two Months, yet they secure to themselves Plenty at cheap Rates, by entire Freedom in the Trade of Grain, both for Import and Export; and the Whole of their own little Produce is, in that free Traffic, on a Footing with the rest. They buy at all Markets when cheap, and sell again when it can be done to Profit; and by such Means even secure their own Supply upon moderate Terms; so that they have no Alarms of approaching Want, nor really experience any; while their Manufactures all flourish, and their Trade goes on well, in a regular and secure Way.

In all other Countries that we know, hear, or read of, there is no one Instance to be produced of a Bounty being paid on the Exportation of native Provisions: And surely in a trading and manufacturing State it must, or should, be thought such a Solecism in Politics, as can only disgrace the Heads of some of those of the *English* Landed Interest; for it is actually making the People eventually pay an enormous Tax, in order to introduce every Kind of Iniquity in all Dealings in the Necessaries of Life, so as, in Conjunction with a forced Exportation, to make them grievously dear for home Consumption, and destructive of our most valuable national Trade. In this Light it must appear to every intelligent
and

and impartial Man; and therefore how foreign Nations do therein judge of our Political and Commercial Skill we should seriously consider, for they certainly will not inform us, while they are reaping such Advantages from our Dupery to a blind, partial, and mistaken Interest.

It might be highly imprudent in the *North-Americans* to lay Duties on such Exportations, because their chief Dependence is on those Articles of Trade: But those Colonies excepted, it may be difficult to find any Country but our own that does not lay a Duty on exported Grain, and many lay a considerable one; nor can probably another be produced that admits of the Exportation of Grain, even with paying Duties thereon, at any Thing near the Rates to which we grant so excessive a Bounty for that bad Purpose. I can rely on my Information, and the Public has indeed had it before, that in *Sicily*, which is the great Granary of the South, the Government, which is absolute, and receives a Duty on Exportation, never admits of Wheat being shipped off, Duty and all Charges included, at a higher Rate than what answers to *thirty-seven Shillings and Sixpence the English Quarter*, notwithstanding the Corn of that Island is intrinsically worth five-and-twenty *per Cent.* more than the best *English*, and that it is the chief Article of their Trade, *Sicily* being known not to be a manufacturing Country in any considerable Degree. Similar to these are the Regulations at *Naples*, and almost all other Corn Countries; none of which, that export much, are greatly concerned in Manufacturing except our own, wise and considerate ENGLAND, so extremely remarkable for a System of Policy, in this important Matter, so diametrically opposite to that of every other State, and so big with Mischief to itself, from the most ruinous Effects.

All *Ministers*, all *Legislators*, are called upon to advert to these FACTS; as all *Merchants* likewise are to *disprove* them, if they are ERRONEOUS; in order that Truth and Policy may be brought to the clearest Tests, and this Kingdom delivered from the worst Evil under which it groans.

MAGNA CHARTA has been long, and by too many, thought not more the *Palladium* of *English LIBERTY*, than the BOUNTY ACT the *Palladium* of *English PLENTY* and PROSPERITY, while it was even becoming the Source of all *Wretchedness*, the Parent of all *Villany*, and the secret Underminer to *Destruction*, of the best Branches of our national TRADE.

When the Bounty Act was made, Land was not so engrossed for Pasture and Grazing; Agriculture was then the Source of the Nation's Wealth.
 2. *All Draughts were performed by Oxen, and not Horses, which must have Plenty of Corn.* 3. *Distillation, that great Waste of Grain, was not thought of then.*

There

There is, however, one more Hackney Plea in its Favour, which I shall now take into Consideration; and that is, its being a Means of favouring and increasing our MERCANTILE NAVIGATION, which in some Degree is true, but not to the Extent that is alledged; for the Nature of our Shipping is such, as to command a Preference in this Business to that of every other Nation, especially for long Voyages, as is experienced in the whole Corn-Trade of the *Mediterranean* and *Levant*, where the better sailing and fitting of our Ships, with the greater Skill and Fidelity of the Masters and Crews of them, do always secure a Preference, even at a considerable higher Price of Freightage. But was this not the Case, that Advantage might be as fully secured here, with the taking off the Bounty, by suffering it to be freely shipped on our own Vessels, and laying a Duty on what may be shipped on foreign Bottoms.

Having thus endeavoured to set this important Matter in a true Light, with regard to the People in general, our Trade, and the State, I shall more fully consider how far, and in what Ways, the Landed Interest will be affected by the Abolition of the Bounty in my next Letter.

P U B L I C O L A.

L E T T E R V.

IF the Increase of Expences have been made proportional to the Increase of Income to those of the Landed Interest, not only in the higher Prices of Provisions for their own Consumption, but also in increased Poor's Rates every where, the advanced Prices of Labour of every Kind, and the additional Profits made necessary to all Dealers in every other Article of Expenditure, from the dearer Rates of Necessaries, these surely might be thought sufficient to shew, that Landlords are not really benefited by the Advance of their Rents, in Consequence of the high Prices of Provisions.

But these are not their only Objects of Consideration in this Matter, the most material of all being the Prosperity of their Country, for according thereto the Property of Individuals will improve or decay; and as they have at least the most local of all Ties, from the Nature of their Property, it should be thought most their Concern to secure the Welfare of their Country. They are beyond all the Members of our national Community interested in the Prosperity of Commerce, and the Extent of home Population, because this is, after all that can be said on the Subject, the only sure Market they can have for their Commodities, from the new and strong Turn in Pursuits that Nations may take, and indeed are taking
with

with regard to Agriculture; so that they are not to form general Judgments from what have been the extraordinary Effects of unusual Accidents in the South-East Parts of *Europe* for three successive Years, as such in an equal Degree will probably not happen again in the Duration of our Lives. The genuine Value of their Lands will always be proportional to the Degrees of our national Population, as the latter will be to the State of our Manufactories. No Man will dispute, could a flourishing Town be erected on every great Estate in the Kingdom, if the Value of that Estate would not thereby become greatly enhanced, not only by the Ground-Rents for Houses, which must be the best Use Lands can be applied to, but also by the more beneficial Uses than ordinary that much of the other Land would be put to in Consequence thereof. Besides. The Weight of Taxes naturally become diminished to Individuals by an Augmentation of useful People, and the Resources of Government, which are of great Importance to the Landed Interest, are thereby every Way increased. Thus is that particular Interest more connected than any other with the great general Interest of the Community, which is to increase Population; therefore all Measures which in any Mode so operate as to counter-act that great national Pursuit, must prove more prejudicial to the Landed than to any other distinct Interest in the Kingdom; and this the Bounty on exported Corn infallibly does, by affecting our Manufactories, which are our great Sources of Population; as also our best Branches of Exports, which are the true Sources of our national Wealth.

Besides, let it duly be considered, that the Proportion of Advantage to the Landed Interest in general would be, of appropriating the Bounty-Money to the Redemption of Funds, and the Annihilation of Taxes, in which Application the Benefits of it would however be general, that now are at best but partial; for Abundance of the Lands of this Kingdom reap no Advantage from the Bounty; nor probably does much, if any of it, now go to the Landed Interest, which possibly at first enjoyed the Benefit of the Whole, and always a great Share of it, till within a small Number of Years past, in which there have been such Refinements in the System of Jobbing, that it has now greatly, if not entirely, become the Prey of those Cormorants, who are thereby grown so thriving, I might say opulent, in most Parts of the Kingdom, as to be eating apace into the Inheritance of their Landlords.

The true Interest of the Landed Men and of the State is, and always must be, the same; so that every Opinion to the contrary can be founded only in real Ignorance. Population should be alike their common Object; and different Effects therein have been strongly experienced in the
West

West and the North, from the Migrations of Manufactories from the former to the latter. *Yorkshire*, and some of its Neighbourhoods, have become greatly flourishing, at the Expence of several Western Counties; and none more than the Landed Gentlemen feel the different Effects of that apparent Cause, from rising Towns in the former, and decaying ones in the latter. This is the sure Clue for conducting the human Mind through the Labyrinths of Policy, which are made intricate too often by Folly as well as Craft; for in the Effects of those Migrations we may see, as in a Mirror, where the true Landed Interest lies, as well as that of the whole Community.

If the Landed Gentlemen, therefore, will divest themselves of their blind Prejudices, it will become facile for them to discover, that they are not so much interested in supporting the Bounties on exported Grain, &c. as they have been made to suppose, and that their own peculiar Advantages are more closely interwoven than those of any others with the great Interests of the State.

The Monied Interest, as it is generally called, or more properly the Funds, may be considered as a Wen on the Body Politic, and, as far as Foreigners are concerned in it, a consuming Drain of our vital Juices for the invigorating of rival States; while here it is made the Promoter of Luxury, Effeminacy, Insignificancy, Idleness, Rapacity, Knavery, Celibacy, and a thousand other internal Evils. To get rid, therefore, by honourable Means, of that prolific Hydra of Mischiefs, should be the eager Desire and active Endeavour of all; but as the only useful Interests, beside the Landed, are those of Trade, Art, and Labour, the Landed Gentlemen should consider that all these can desert, with their various Properties, on the foreseeing of a Storm or Shipwreck, which they themselves cannot do, and that the former have an Asylum but too inviting for that Purpose. Those of the Landed Interest should likewise reflect, that the Dependency of *North-America* on this Kingdom must be from our national Power, and that we can secure to ourselves their Supply with Manufactures, or that of any other Country, by no other Means than that of Accommodation in Prices; also that as our Trade in exported Manufactures, and our national Population, (the Sources of our Wealth and Strength) can only, and must ever depend on the Cheapness of Provisions; therefore it is hoped they will consider the Bounty on exported Corn to be no less injurious to them, than it is to the State and People.

PUBLICOLA.

L E T T E R VI.

SO many Circumstances occur on the interesting Subject of paying a Bounty on the Exportation of Corn, that a Man must be unwilling to leave any of them unconsidered in a Discussion thereof.

It is an Opinion unfortunately too prevalent, that five Shillings a Bushel, or forty Shillings a Quarter, is the equitable, and therefore the natural Price of our Wheat; as it is a common, I was going to say a *cant* Saying, that it is a fair Price between the Grower and Consumer, and one by which the Farmer *can live*.

Now it has often been asserted in Print, and I have good Reason to think on right Principles of judging, from a pretty clear Knowledge of the State of the Corn-Trade in general, that the Average Market-Price of *English* Wheat cannot be more than three Shillings and Sixpence a Bushel, or twenty-eight Shillings a Quarter, if regulated by the Average Rates of Wheat in the several Countries that produce it; nor could it be made otherwise, but from evil Practices that have their Source in the Bounty on Exportation.

That *Holland*, which depends on Importation for five Sixths of what she consumes, pays twenty-eight Shillings Market-Price upon an Average for that which she buys, is what I believe no one will assert who is acquainted with the State of the Corn-Trade in the *Baltic*; nay, it might be said even when imported into her own Territories. No true Estimation can be made from the general State of the Corn-Trade within the three Years last past, because the Failures of Crops up the *Mediterranean* and *Levant* have been such, in Succession, as perhaps cannot before be remembered by any who are now living, or may not again within the Compass of existing Lives; therefore we are not to frame, as has been before observed, Estimations from Periods of Time remarkable for very uncommon Circumstances.

In the ordinary Course of Seasons the medium Price of *Sicily*, *Naples*, *Sardinia*, or *Levant* Wheat, is under thirty Shillings a Quarter, shipped clear on board; and I believe it will be allowed that of *Baltic* Wheat, in the same Manner, is under five-and-twenty; and the Experience of *English* Merchants might be appealed to, in a Series of Years before that of 1757, if *English* Wheat was not generally thought a dangerous Commodity to deal in, even with a considerable foreign Demand, at so high a Rate as thirty Shillings a Quarter, including the Bounty and Shipping Charges, which might make it be estimated at little more than thirty-two Shillings and Sixpence Market-Price, and was a Rate that it was less frequently

frequently at than from ten to more than twenty *per Cent.* under it; and though Seasons have since that Time been more unfavourable here and elsewhere, yet Knowledge in Agriculture has been improving in most Countries of *Europe*, and the Turn towards it likewise; therefore such Ideas of the general Value of our Wheat have no Kind of Foundation either in Reason or Experience. The Southern Wheat, I must add, is from fifteen to twenty-five *per Cent.* better than *English*, and that of the North and of *France*, from five to eight *per Cent.* worse, in general Estimation.

But it may deserve being particularly pointed out, what Effects the Bounty on our Wheat may have on the Prices of Labour in this and the neighbouring Countries of *France* and *Holland*, in the ordinary and even extraordinary Course of Things.

From the Coasts of *Dorset*, *Hampshire*, including the Isle of *Wight*, *Sussex*, and *Kent*, the Navigation is shorter and of Course cheaper to some of the *French* Ports than to *London*, so also from the Coasts of *Essex*, *Suffolk*, *Norfolk*, and others farther North, the Voyages will be shorter to the *Dutch* Ports than to this City, therefore in all foreign Places where the Freightage is not more extensive from the shipping Ports than to *London*, Consumers are supplied with our Corn at or near five Shillings a Quarter cheaper than we have it at *London*, which makes, upon the whole, a Difference in their Favour, in that chief Article of Food to the industrious Poor, of from twelve to above five-and-twenty *per Cent.* Are we then to wonder that we are under-worked, and under-sold at foreign Markets, to the great Diminution of our national Trade, Riches, Employment, and of Course Population?

Such are the Disadvantages, comparatively with Foreigners and Rivals, at which *Londoners* eat their own national Bread, and indeed at which our Distilleries are carried on, and some other Manufactures; not forgetting Bread also for our Shipping, which in the navigating Branch is a considerable Article; and such likewise, but in a less Degree, the Case in our Maritime Counties; nay, in some it is in a greater, as in *Cornwall*, for Example, which always wants a Supply of Corn, and generally receives it from the Isle of *Wight*, from whence the Voyage is shorter to some Ports of *France*, and consequently cheaper; so that there is that Difference to be added to the whole of the Bounty in Favour of *French*, and against *Cornish* Consumers.

These are Facts and Estimates with which the Generality of Men are perhaps very little acquainted; but they may serve to account for the Diminution of our Manufactories, the Decline of our Trade, and the Decrease of our People, all depending on each other, and of Course derived

from the same Cause. It is reported, and credited on the best Authority, that, within eight Years preceding the last, the Number of Houses in this Kingdom are decreased no less than five thousand four hundred, notwithstanding the prodigious Number of new Buildings erected in and about *London* and *Westminster*, and at other thriving Places, which together it cannot be unreasonable to estimate at an equal Number; so that in those eight Years the Depopulation of Villages from the uniting of Farms, and the Decay of manufacturing Towns from the Loss of our Trade, have together been to the Extent of near eleven thousand Families. A Circumstance which should surely prove so alarming, as to press the speediest Application of an effectual Remedy; and the most likely to prove such must be the Abolition of the Bounty on the Exportation of Corn, &c.

P U B L I C O L A.

L E T T E R VII.

FROM what has been said concerning the Payment of a Bounty on exported Grain, Flour, and Malt, and the State of the Corn-Trade in other Countries, on Authorities to be relied on, I flatter myself with believing it must evidently appear, that the general and Landed Interests of this Kingdom have alike been greatly mistaken therein; therefore it should be hoped that so great a Drain from the Sinking Fund as that Bounty has proved will no longer be kept open, to operate in so ruinous a Manner.

The Sum must be immense that has been drawn from the Revenue for this Purpose, from the first instituting of the Bounty to the present Time, but I am not enabled to ascertain it; nor can I pretend to frame any Estimate of what the annual Average Charge of it is to the Kingdom for any Series of successive Years. A Ship of 200 Tons Burthen carries 1000 Quarters of Wheat, 400 of which Cargoes cost the State 100,000*l.* in Bounty; and there do happen Years in which many Times that Number of such Cargoes of Wheat only are shipped off, besides Rye, Barley, Flour, and Malt; on all of which the allotted Bounties are likewise paid. The Legislature, or Ministry, can know these Sums exactly for any Series of Years; and whatever the Average annual Amount of them may be, (and it cannot but be great) the far better Operation of it in the Sinking Fund would highly contribute, in a few Years, to our Relief in Debts and Taxes: But its present Appropriation has a quite contrary Effect, from fatally increasing Parish Burthens, and lessening our national Trade and Population.

I have

I have already observed that these Bounties, which at first might be gained by those of Landed Property, are now made no other than the Booty of Jobbers in Corn, and therein injurious to the Landed as well as all other good Interests. It has not been by them that the Value of Estates has been raised; and to which in general (however great they may have been) they could never have borne but a very disproportionate Part. The increased Value of Estates has been chiefly owing to the great Improvements of Land and Husbandry of every Kind, which of late Years have been made in this Kingdom; and from which the useful Part of Mankind reap no Benefit, but, on the contrary, suffer great Injuries from the prevailing Spirit of Jobbing and Engrossing in all the Products of Lands, which sprung chiefly in the first Instance from these fatal Bounties; for others seeing such Success attend intermediate Dealings in Grain, became encouraged to engage in like Practices with regard to every other Article of the Necessaries of Life; and the Progress is still alike gradual, alike both in Extent and Success. I could name a distant Country from the Metropolis, in which, since last Year, the Price of Butter has been raised near *Cent. per Cent.* to all Purchasers, from the Interposition of Jobbers or Engrossers in that Article; so that it is become in every Thing as with Corn, all Prices are not *natural*, but *artificial*; and Engrossers, Jobbers, and all the various intermediate Dealers in the Necessaries of Life, are, together, *devouring the People, and destroying the great Interests of the Kingdom.*

In these shameful Abuses then lie all the Sources of our national Misfortunes, for which the Remedies are obvious, being the Abolition of all Bounties on the Necessaries of Life, the Re-division of Farms, in order to lessen the Opulence of hoarding and monopolizing Farmers, reviving and enforcing all the wise Laws that have been made against Jobbers, Foresters, Regrators, and every Kind of intermediate Dealers in the Necessaries of Life, more effectually regulating Millers and Mealmen, compelling a due Observation of the antient Rules of Markets and Fairs, as far at least as regards Provisions, with adding to the Power of the Magistracy, and compelling them to do their Duty.

The Landed Interest now pays double Tax, which formerly was never done in Time of Peace: This is one Cause makes the Proprietors raise and rack their Lands; this gives the Farmer a Handle to raise the Price of all his Produce, which they lay on the Buyers, and fall on the Poor.

Landlords forbidding their Tenants to plow, must be a great Loss to the Community in general, without any sensible Profit to the Landlord, especially if

if he keep not Land enough in his own Hand to serve all Purposes and Uses; for if they lett dear, they must buy in all Necessaries dearer, and live at greater Expences. But many Tenants would and could afford to pay dearer had they the Liberty of plowing their Land, which would be more advantageous to them. Instead of this Method it would be for the Profit of the whole Community, especially of the Poor, if every Tenant was obliged to plow a third or fourth Part of his Farm.

Another great Cause of our present Evils, is the engrossing of Farms, adding Farm to Farm, and suppressing small Farms, which tend directly to depopulate the Country, and starve Manufacturers and the Poor; for in Time of Scarcity small Farmers must and do always relieve the Poor first, for they cannot afford to hoard up Grain by them, as they want Money to pay off their Rents and other Necessaries, whilst the rich Monopolizers hoard it up till they can make an artificial Dearth; so that after a plentiful Harvest the Poor must be starved till the next Spring, that the Rich will thresh and bring out their Grain to Market, and know what likely Call they are to expect for Exportation. This pinching of the poor and labouring People must prevent Population, as well as the taking away of small Farms, breaking up of poor Families, and preventing Marriage. If great Farmers cannot make a Dearth of Grain, they turn Graziers and raise a Stock, and thus they immediately advance the Price of Cattle and Horses: But if small Farms were lett as formerly, such Farmers raised a young Stock, and kept the Price of Cattle moderately cheap, but rich Graziers or Farmers must buy in a fresh Stock yearly to fatten for Sale; therefore great Farms being made out of small ones, Cattle must be dearer: As also this Grazing requires far fewer Hands to be employed in the Country, which must depopulate it, and fill large Towns with Poor and Manufacturers, and pine both. Hereby also few Farmers are seen in Markets; this raises the Price of the Necessaries of Life. Grazing Farms depend chiefly upon Cattle and Sheep for Butchers, and as they are chiefly for fattening Cattle, they breed little or none; hence little or no Stock bred, but must be bought in, such Cattle not being kept milked, must necessarily enhance the Price of Butter and Cheese, and not having much Corn, they feed few Swine; this raises the Price of Pork and Bacon. Then another Evil of engrossing Farms is, it prevents the Marriage of Farmers and Graziers Servants, whereby there might be many more useful and industrious Farmers propagated: This is a great Loss to King, Country, and Community. If it is pleaded that such numerous Families of small Farmers consume the whole Product of their Farms, be it so; yet such Families are of far greater Service to a trading industrious Nation, and add far more Strength to it, than rich Farmers and Graziers;
for

for their narrow Circumstances oblige them to bring their small spare Produce to Market, that they may pay Debts and procure Necessaries. Thus Markets are stored with such Farmers, who must sell at what Price they can get; and the Money circulates presently; but the Rich can keep their Grain and other Necessaries out of Markets, till they bring what Price they please to sell at, and if Buyers refuse to give it they starve them into a Compliance; but when Markets abound with small Farmers, Buyers can bring them to a reasonable Price, and the other is obliged to sell. On the whole, such as lay small Farms together are Enemies to King, Country, and Trade; they lessen the King's Strength, and thin the Country of Inhabitants, and cause a Dearth on all the necessary Articles of Life, by thinning the Number of Sellers: These small Farms also keep Milk, Butter, Cheese, Pork, Bacon, &c. at reasonable Prices, so as the poor Manufacturers and Labourers are supplied at moderate Rates; all which are raised to excessive Prices where large Farms are turned to Grazing Grounds.

Inclosing of Commons, open or Town-Fields, and letting them to rich Farmers, who turn them to Pasturage, is another inhuman Practice, and Cause of the Dearth of Provisions; especially where many Thousands of Acres of the best and fruitfulest Corn Grounds are turned to Pasture Land, or whole populous Parishes; whereof I know several of the best Corn Grounds in the Centre of England are turned into Pasture, without any Corn in them, and perhaps not above one or two small Families in each whole Parish, and many Hundreds of Families turned out: Nay, during one Sessions of Parliament Bills were granted for twenty-five Inclosures, fourteen whereof were inclosed in one small County; nay, some Time since a whole Country Side was inclosed at once. By this Means Thousands of Families and Souls have been dispersed, and driven either into Towns, Manufactures, abroad, or where they could live; hereby an effectual Stop is put to the Increase, Growth, and Strength of the Nation, however Towns and Manufactures may be more populous. Yet some are so bold as ignorantly and impudently to assert the Increase of People in this Nation; but this is utterly false; for the Increase of Houses and Families in Towns and Manufactures is chiefly owing to ejected Populace taking Refuge there. This wicked Custom of inclosing Grounds has been often and loudly complained of, and caused many Disturbances and Insurrections in this Nation, as in 1490, 1521, 1650, &c. after this the Duke of Somerset, vigorously opposing Inclosures, exposed himself to great Danger. The Norfolk Men, in opposing Inclosures, broke out into an open Rebellion; the like in Buckinghamshire. Sixty Years ago great was the Uneasiness of the Nation upon inclosing a large Corner of a Country in Galloway; and in 1717 and 18 great Shoals of Families were obliged to transport themselves

elves and Families from the North of Ireland to South-Carolina, till the Country was almost depopulated, from Landlords racking and raising their Rents; but then they were glad to offer their Lands at a third Part of the Rent they had racked them to. Many and great Inclosures have been made in England within the last twenty Years, to the depriving of Thousands of Poor of Bread, whilst all Sorts of Flesh-Meat were raised to monstrous Prices, and a young Breed was prevented, by fattening the Sheep and Cattle in Inclosures for Slaughter. Want of Bread forced the Poor to buy Flesh; this more and more advanced its Price, from its being daily used by all Ranks, whereas at the same Time a wicked Practice was allowed in England, but permitted by no other Nation round the Globe, viz. allowing a Bounty upon Exportation of Grain, the chief Staff of Life, the Support of the Poor and Manufacturers. These Solecisms in Policy have greatly hindered Propagation, and propagated Whoredom and all Uncleaness. This Scarcity and Dearth of Provisions, both vegetable and animal, has obliged the Poor in many Places to live upon very uncommon and unwholesome Food, gave Rise to that epidemic, fatal, putrid Fever in 1741, which (except in a few plentiful Years) has roamed the Kingdoms about from Place to Place ever since, sometimes more gently, other Times more fatally; yet our Grain permitted either to be exported or hoarded up, while not only Thousands but ten Thousands of useful Subjects have been carried off by Death. The inclosing of Commons and Town-Fields is very laudable and useful, provided they were lett out in small Farms, and each Farmer obliged to plow a third or fourth Part of them; but by letting them out in great Farms for Pasture, the whole Design is frustrated both to the Poor and Community; and what Landlords get by raising their Rents, they lose by their Family Expences and Luxury.

N. B. By small Farms I mean such as will at least enable the Occupier to maintain and employ a Draught or Team in Agriculture.

Small Farmers, with industrious Families, are the Producers of all Plenty; but great and opulent ones are the Sources of a thousand Abuses and Grievances, and, with the Aid of combining Jobbers and monopolizing Dealers, are the Creators of artificial Famine and destructive Wretchedness. Their Wealth likewise serves to put their Families above Industry, and therefore all the inferior Advantages that ought properly to result from the Practice of Farming, are lost to the Public, while the superior are corrupted into the most oppressive Abuses; and, in short, Order in that Rank of Life and its Connections is become almost entirely lost. Their Wives and Daughters are no longer the useful People they were wont to be; while themselves, instead of being, in their Calling, the
beneficial

beneficial Part of the Community, which they ought to be, are become Conspirators against, and Spoilers of, all the other Orders of the People.

I have pointed out, under this Head, the Causes of our national Evils and Calamities, and also the Means for effectually removing them. If there is Virtue in the State, it will thereon become exerted, for the Restoration of Order and Suppression of Iniquity, as thereon our future Prosperity or Adversity must eventually depend.

It will not be skinning over dangerous Sores in the Body Politic that can restore it to Soundness; for the Lancet and Probe must be used before the Application of Plaisters, or Rottenness and Corruption will speedily affect the very Vitals of State. The ALMIGHTY is gracious in the Bestowal of his Blessings, but they all are, in a great Degree, made fruitless by the Iniquity of *Man*.

PUBLICOLA.

L E T T E R VIII.

HAVING, it may be hoped, said enough to convince every impartial Mind of the ill Effects which the Payment of a Bounty on exported Corn must have on the most interesting Concerns of this Kingdom, I shall now proceed to point out those which are occasioned by mistaken Opinions of another Article of Landed Property, which is Bark for tanning Leather, a Manufacture or Commodity that was, not many Years ago, one of our most staple Branches of Export.

By an Act of *James I.* Leather is forbid being tanned with any other Thing than Oak or Ash Bark, which undoubtedly in those Days were thought the only proper Materials for that Purpose; and it is but candid and reasonable to suppose, that the Parliament of that Time had no other View in passing that Act, than to prevent the using of Materials which would debase the Qualities of Leather. But Time, the Parent of Discoveries, with the Aid of Encouragement, the Improver of Arts, has, from Accident or Study, made others therein in this and foreign Countries; of which we not availing ourselves, and they wisely doing it, our foreign Trade in tanned Calves Skins has become entirely lost, and that of the thicker Leather is also in the last Stage of Decline.

Two Years ago a Discovery was offered to be made to the Society for the Encouragement of Arts, Manufactures, and Commerce, of a Method of tanning Calves Skins with another Material, in one Third of the Time,

A a

and

and at one Third less Expence than with Bark; and they, not being aware of any Restriction therein, did agree to the Reward of 100 *l.* on the Proof of the Discovery from Experiments; which were accordingly made by the Company of Tanners, as well as at the Society's Office, to entire Satisfaction. The Material was Oak Saw-Dust; and as it was found that any Mixture therewith of the Filings of Saws would greatly blemish the Leather, Mills were actually setting about for the grinding of refuse Oak for the Purpose of tanning, when it was discovered that no such Use of it could be made; and much about the same Time another and better Substitute, at least in Point of Cheapness, was said to be found out; but neither of them could be used from the Impediment which has been mentioned. A Gentleman however undertook to get that Impediment removed, but was afterwards discouraged from pursuing his Design, from finding that those of the Landed Interest were averse to diminishing the Value of Bark, though they certainly would have had an Equivalent in the superior Value that would thereby have been given to their refuse Oak, with regard to one of the new Methods of Practice; and probably it would have been the same, in another Way, with regard to the other Secret; but the Apprehensions of those of the Landed Interest rendered both Discoveries of no Use to this Kingdom, though other Governments immediately endeavoured to avail themselves of that which had been made public, and we ourselves are now importing Bark from *America*, in order to check the enormous Demands for what is produced in this Kingdom from being, we may suppose, got into the Hands of Jobbers, like every Thing else; so that with the Loss of our Leather Trade of Exportation, for the Sake of supporting the Price of Bark, we may expect in a few Years, from the great Benefits derived to other Countries from our own neglected Discoveries, that Leather will become an Article in the Smuggling Trade into this Kingdom, as well from the Cheapness of manufacturing it abroad, as from the high Taxes on it at home.

But it may be farther worthy of the highest Consideration, how far the Importation of Bark from *America* may set the People of that Country upon increasing their own Tanneries, in order for supplying themselves entirely with Stores, which hitherto have made no inconsiderable Article of Exports to the Colonies; but probably henceforward, instead of Shoes, they will be set on importing from us Shoemakers; so effectually have narrow and selfish Regards here a Tendency to play the great Game of Interest every Way into their own Hands from our own. It must be needless to point out how burthensome, in the Price of Shoes, the Dearness of Leather proves at home to poor Families that are large.

It

It is worse than Folly, it is Madness, to think of favouring any partial Interest to the Destruction of a general one; which must ever be the Case, where a Manufacture of Exports becomes starved to Destruction by the Price of raw or other Materials. I have repeatedly said, what no Man of real Sense should be supposed to want Conviction of the Truth of, as it is so glaringly obvious, that the Prosperity of the Landed Interest must depend on the flourishing of the Trade of Exportations of every Kind of manufactured Commodities, because thereon must depend the Degrees of our home Population, in the comparative Measure of which does, and ever will, consist the Degrees of our national Wealth and Power. Every Advantage, therefore, which can be acquired by the Landed Interest, from Means destructive of our Trade of Exports, must in other Modes recoil with greater Disadvantage back on that Interest again, which, as Mr. *Locke* judiciously observes, in the End, does supply all Deficiencies; indeed he asserts, must finally pay all Taxes: But without insisting thereon to the utmost Extent, it can be made evident from Abundance of Instances, that in Matters wherein the Parties in that Interest think they excuse or favour themselves most, they eventually pay more than double what they imagine they either gain or save by a partial Scheme for their own Interest.

I shall on this Subject only add, that both they and the Nation lose in the Value of the Timber more than they gain by the Value of their Bark, from the Bulk of it being cut down, for the Sake of the Bark, while the Sap is in the Trees, which renders the Timber of a much inferior Quality. And what is this more than one Instance of that very Short-sightedness, so natural to those who act under the strong Influence of a narrow and self-interested Principle, on which the Prodigal and Miser proceed equally to their own Injury; but it is become a prevailing Principle of the Times, and blindly operating apace to our national Ruin.

PUBLICOLA.

L E T T E R IX.

EVERY intelligent Man must know, that it is not by the Manufactures we consume, but by those which we export, that the Nation becomes enriched; and that the Wealth which is brought into the Kingdom by Trade must necessarily circulate, because the Merchants therewith pay their Manufacturers, and the latter their Workmen, the Farmers, and others of whom they buy their Materials, and the Mechanics of whom they purchase their Implements, who all pay therefrom to Dealers for their

various Necessaries and Luxuries, which from the Dealers circulates again through the Hands of Farmers to those of Landlords, and from them to other Dealers; while in every Stage a Part goes off constantly to Government, which again circulates back by other Channels through the Community, and keeps flowing and ebbing to and from the centre and extreme Parts, like the Blood in the human Body; which constant Motion of the vital Powers in the Body Politic gives it the Vigour by which it acts, and are therein the Causes of its Existence.

It was neither the Fertility of Soil or Richness of Mines that gave Greatness to *Palestine*, *Tyre*, or *Carthage*, any more than in later Ages they have done to *Genoa*, *Venice*, or *Holland*, all being alike naturally poor in the Products of the Earth; nor was any Country ever made wealthy by the Exportations of Provisions, the Products of its Lands, or raw Materials for Manufactures. Industry and Commerce can only make a State permanently rich and powerful, and therefore they are to be considered as the first Objects of national Policy and Regard.

No Subjects contribute fundamentally so much to the Good of the State as those who practise Husbandry, Mechanic Arts, (which include all Manufacturers) those engaged in Navigation or Fisheries, and Merchants who pursue such Traffic as is directly or eventually profitable to their Country. Land-Owners live on the Labour of others; licit Dealers among themselves are useful for mere Convenience, yet they add nothing to the Public Stock; but all Jobbers and Engrossers, of every Denomination, if they cannot be called Drones, are at best Wasps, whose Activity is employed to plunder the industrious Hive of their Stores, from not labouring, but preying, for that by which they subsist or grow rich.

In these Lights, to wise Men, do the several Orders of a national Community appear, as far as regards the Opulence and Power of a State; and by such guiding Lights must true Policy be directed. We could be great without Lords, but not without Merchants or Seamen. We might be rich without Shopkeepers, but not without Mechanics. We could have Plenty without Gentry, but not without Husbandmen. The less Need we had of Soldiers, the securer we should be; the less Call we had for Lawyers, the more Justice would prevail; and the fewer Jobbers we had among us, the cheaper would be our Provisions. All of these add nothing to the Prosperity of the State, but many of them do much to the Disquiet of it; and the latter, as far most pernicious of all, do not a little diminish it; therefore, of all Kinds of People, intermediate Dealers are the worst, from being the most hurtful to the other Orders of the Community as well as to the State.

It is not my Intention, from what has been said, to level Dignities, or to depreciate Professions, because those which are constitutional have all their great or real Uses. The Lords are a balancing, and therefore a necessary Estate of the Kingdom, in which their national Merit lies. The Courts of Law are the Dispensers of Justice, and naturally the Maintainers of Right, and therein those of that Profession have great Merit, as far as their Practice is regulated by a strict Regard to Truth and Equity, but every Thing beyond those is Iniquity; for no Talents, no Knowledge, should be prostituted for Money to the doing of Injustice, as whatever admits of such is an Abuse. The honest Shopkeeper, or licit Dealer, is likewise an useful, and, of Course, worthy Member of Society. The Gentry, if they would live more in the Country, and within their Incomes, are also a respectable, and, constitutionally, would be an useful Order of the People; nor can it be said that the Soldiery are quite an useless Body of Men in the present State of the Nation. But nothing can be said in Favour of those who act in Opposition to wholesome Laws, and deal in Oppression and Injury; which is the Practice of all intermediate Dealers in the Necessaries of Life, as well as of those whose Traffic, of a like Kind, serves to prejudice any of the great Interests of the State.

My only Aim in this Representation is to shew who those are that most merit, and need the greatest Protection and Encouragement for the Good of the Kingdom; and, on the contrary, who most require being restrained, or to have their Practices put an End to; or, in short, where it is for the general Interest to shew Favour or grant Indulgence, or to apply Rigour, in order that Reformation may take Place.

It cannot but be supposed that all Men, who have a particular Interest to pursue or promote, will consider all that is said on this Subject with a Bias to their own Interest; but such Men are partial, and what is written on these Subjects is directed to those who are otherwise, as all Ministers of State, Legislators, independent and honest Men should be, and it is to be hoped really are, because it is only from such that the Reformation can be expected, which is become so greatly needed for the Happiness of Individuals and the Welfare of the State. In the poorer Orders of those for whom I plead, it must be allowed to be also much wanted, for they stand not more in Need of Kindness than they do of right Discipline, in a Variety of Instances, as I shall next endeavour to make appear, who have no Object in View but the Investigation of Truth, and the promoting of Justice in a relative Light to all, and for the Good of the whole Community.

PUBLICOLA.

LETTER

L E T T E R X.

TO preserve Order and Peace; to administer equal Justice to all; to encourage and reward Merit; to check Vice, and punish Crimes which are hurtful and dangerous to Society, are among the great Ends, and consequently the chief Duties of Government; and the less Neglect or Partiality there appears therein, so much the more perfect and meritorious will the Exercise of high Power appear in the Eyes of Mankind.

Without the Froth of florid, vague, and commonly fruitless Declamation on the Miseries of the Poor, I have endeavoured to represent their great Utility to the State; and with shewing how their Hardships and Oppressions are made hurtful, nay, dangerous to the Community, I have also pointed out by what Means they are to be removed: But as they, like others, have all the Frailties, Vices, and Errors which are incident to human Nature, the Restraints of Discipline are of Course as necessary as Protection and Kindness, as well for their Happiness as for the Good of the Kingdom.

It has been already observed, that where Provisions are dear Men cannot work cheap, and that the Prosperity of our best Trade depends on the Cheapness of Labour; but where Provisions are cheap Labour may be made so, and from such being effected that Trade will become flourishing.

The natural Effect of cheap Living will be every where cheap Labour; for Workmen, like Traders, can always, from the Extent of their Numbers, be beat down to a living Price for their Commodity, which in Effect Labour is, like any Thing else for which Agreement is made: And it is strictly agreeable to the most virtuous social Principles, as well as to the Spirit of our Constitution and the Letter of our antient Laws, nay, indeed to the Laws of Nature, to compel Men to act as they should do, or to punish them for doing otherwise, that is, doing what is injurious to others.

The Legislature has always exercised the Power of regulating the Rates of Labour; and while it is done in such a Way as to enable Men to live in a Manner becoming their State of Life, it is done with great Justice: But if a farther Stimulation be added, by affording an Object to great Industry and Frugality, it may be considered truly honourable as well as politic; and if Men will not do with these, then the coercive Means of Compulsion and Punishment are with Propriety to be applied.

That too many of our Workmen of all Kinds will be vicious, and abstain from Labour, even when in a State of the utmost Necessity, is but
too

too common a Practice, as Experience evinces ; the best Remedies against which must be a careful Discharge of all Clerical and Magisterial Duties, with every needful Increase of Power to the latter for such salutary Purposes, and with proper Care, in the Appointment of the Magistracy, to make it able and respectable.

That the inferior Part of People in *Scotland* are so much better disciplined and instructed than those of *England*, and that here Dissenters of all Kinds are better likewise than those of the National Church, should be considered as a Reproach to the Clergy thereof. Truth should not in any Point be thought a censurable Severity, in what concerns the Good of a Community, and the Welfare of a State. We see what Influence is often acquired by enthusiastic Doctrines over the most ignorant, profligate, and wretched of human Beings : And why should we doubt that Discourses on the moral and relative Duties, with Instructions how to become happy here as well as hereafter, would, with the assistant Force of good Example, have no powerful Effects ? If all those Incitements which Government can give to such Endeavours were happily so applied, by making Utility in the Profession the surest Means of Advancement, there can be no Doubt but these, with the Influence and authoritative Admonitions of the superior Clergy, would go far in correcting the Principles and reforming the Manners of the People, especially those of the lower Orders.

To this good Effect the right Discharge of the Magisterial Offices would prove still more assistant, which never can be expected till the Trade of Justiceship is abolished, and public Good, not private Advantage, made the great Object of acting in the Discharge of their Duty ; the Means for doing which it must be needless to point out, but the chief is that of making the Commission truly honourable and respectable.

But what Admonitions and Encouragements fail to accomplish, Punishments should be made to effect, in the Appointments of which our Forefathers appear to have been mistaken in their Choice of Shame, because accompanied with Infamy, which serve but to produce Desperation. The Pillories, Bridewells, the Stocks and Whipping-Posts, are therefore not fit Means to be applied for Correction ; to which Purpose close Confinement and hard Labour by Task, with hard Fare, and Hunger for Non-performance of it, would operate more effectually ; but vicious Society even in Punishment, where the End is Correction, only serves to fortify the Mind in its Adherence to Error or Iniquity.

All Contracts for reciprocal Considerations must be equally binding ; therefore if the Master bargains for a Day's, Week's, Month's, or Year's Work, and the Man for Wages for any of those Periods of Time, they ought

ought to be equally punctual in their Compliance with the Agreement. The Master ought then no more to be disappointed of the Labour of his Workman (except from legal Constraint or evident Necessity) than the Man of his Wages when they are become honestly earned, and mere Will on either Side should be put out of the Question; so that a wanton Breach on the Part of either should, on the proper Proof being given, be punished by the Magistrate, in a clear Case, decisively, without the Admission of an Appeal that would be attended with Expence, either by a proportionate Fine, if recoverable by distraining, or, if not, by a Chastisement that would not lead to a Corruption of Manners.

The Laws, if needful, should be enforced for the Punishment of Idleness and Vice; and Care should be taken to have them effectually executed, in order to terrify Men from evil doing; which, with Encouragements given them to do well, could not fail, with the other Means that have been mentioned, of producing all desirable good Effects to Individuals and the State.

P U B L I C O L A.

L E T T E R XI.

THE Revival and Enforcement of all the good old Laws of Police which evil Practice had made obsolete, and the establishing of such new ones as Changes of Circumstances and Refinements in wicked Artifice may be found to have been made necessary, it is to be hoped will take Place, from recent Instances of great Distress as well as of dangerous Licentiousness, it being the Duty of Government alike to prevent either, as great Evils to the State; and we can have no Reason to doubt that full Attention will be bestowed for the present Cure and future Prevention of both.

But as the Civil Power is that which is only constitutional in this Kingdom, and in the Nature of Things can only operate with real Efficacy, it must greatly depend on rightly strengthening and regulating the Magisterial Office, and the Dignity given to the Discharge of it by a wise Choice of Men, that can effect Reformation in the lower Orders of People throughout the Kingdom, by the Exertion of a right Discipline, and especially for removing the many dangerous as well as shameful Nuisances that are seen within the Bills of Mortality.

It must be considered as indisputable by all candid Men, that none should be admitted into the Commission who can be supposed to have
any

any Interest, from the Nature of their Property or Professions, in the screening or countenancing Iniquity or Abuse, or even whose Circumstances subject them to Venality, or expose them to Corruption. I have heard an honest Magistrate mention the Means by which others, who were not so, could make a Quarrel between two vulgar Women produce the Sum of fourteen Shillings in the Way of Trade; and which, in the Course of the Proceedings, would probably necessitate the poor infatuated Creatures to pawn their very Cloaths, or other Moveables, for the Indulgence of Rancour; and, after so stripping them, would influence or compel them to make Matters up; which shameful and mischievous Practice must surely be deemed inverting the very Duties of Office.

Great Disorders likewise arise, in many populous Parts of the Kingdom, from the actual Want of resident Magistrates, occasioned by Party Influence or Resentment, arising from another Kind of partial Interest, which is no less selfish, injurious, or shameful; and which has equal Tendency, in other Modes, to promote Vice, Profligacy, Idleness, and every Species of Guilt and Disorder. It must be needless to enlarge or be particular with regard to this Source of Evil; but Remedies we should however hope will become applied by a wise and good Government, while Correction can be effected, for that may not be found practicable, if Evils are suffered to go too far.

That the operative Efficacy of a Police must principally depend on the Abilities and Integrity of the Magistracy, who have the chief executive Part therein, is what can need no Arguments to prove, any more than that, by no other Means, Order, Power, or Prosperity can be insured to a Community. In a less Degree the right Discharge of Parish Offices must be conducive to that End; and that strong Enforcements therein are become highly requisite, or new and important Regulations to be instituted, it must be needless to prove, because sufficiently obvious to those who have it in their Power to apply Remedies of either Kind.

All Institutions are liable to be corrupted, and by Corruption to become inverted, which is no new Observation; and therefore what *Machiavel* says of a national Constitution in general, is equally applicable to every operative distinct Part of it, which is, *That first Principles must be frequently recurred to for the Preservation of its Vigour*, or Restoration from Decay, which otherwise would end in Ruin. And a System of national Polity, like a useful Machine, must always be kept in Order, or it will soon be in Ruins; for neglected Disorder in one Part will quickly introduce the like into all, and then, from being past Remedy, Attempts at Correction will be fruitless, because they cannot prove effectual.

The Body of a People are not apt to apprehend constitutional or political Disorders, and therefore they are generally inattentive to such speculative Prognostications as are framed from rational Deductions of Effects from their Causes, which are, however, sure in their Operations. Hence it has happened that no Nation ever availed itself properly of the Examples of such Kinds which had been furnished by others, any more than the *Jews* would do of the Admonitions of their inspired Prophets; and therefore, although by the special Interposition of Providence, with regard to the latter, yet it was by the Operations of Nature, in Causes and Effects, that their Ruin became accomplished. But we, who have ourselves been too inattentive to Causes, now behold the Effects which were speculatively foretold of some which had but lately become glaringly apparent; and truly they are such as should serve to set those upon serious Thinking, whose Duty it is so to do, how Correction may be effectually applied to the Roots of such Evils, as the Causes of them must be removed, or the experienced Effects will be frequent, and perhaps every Time worse; nay, at last must prove fatal, if suffered to continue, from growing beyond the Reach of Remedies.

Corruptions and Abuses in their Natures are generating, and a lax Discipline is ever the sure Introducer of Disorders. The Powers of preying on one Side, and the Impunity of Vice and Idleness on the other, require equally to be restrained, or rather totally to be taken away; for in Proportion only as strict Justice and true Discipline are supported, a Constitution can be safe, or a State prosperous; or, on the other Hand, the former endangered, and the latter declining to Disorder and Debility; such being always and every where to be considered as unerring Criteria for Decisions in these Matters, as they are infallible Tests of such Truths, grounded alike on Reason and the Experience of all Ages.

PUBLICOLA.

L E T T E R XII.

HAVING shewn that Protection and Encouragement is due to Industry, and that strict Discipline is equally requisite, as well for the Good of Individuals as of the State, let us now consider the Weight of the Burthens on the Community, which are created by their Necessities, and the various Abuses that are experienced therein.

That it is a great Advantage to all those whose Condition in Life makes Labour of any Kind indispensibly necessary for their Support, to be industrious

industrious, sober, and frugal, must be considered as indisputable, because they are Virtues which we are daily seeing do lay the Foundations of every Degree of Fortune and Happiness in the Businesses of Art, nay, in that of mere Labour, at least, of Comfort and Esteem, and not unfrequently of Advancement in Life. These are therefore powerful Encouragements to the voluntary practising of those solid and self-serving Virtues, which are rarely seen to fail of insuring their own Rewards. But as there is rarely any Medium in their Conduct between the Practice of those Virtues and their opposite Vices, which are Idleness, Drunkenness, and Improvidence, the general Community must owe to itself the Care of guarding against the Effects of them to its own Prejudice. That Public which is benefited by individual Industry, owes Relief to its real Wants; a right Sense of which Duty has been, and now is, the Foundation of all instituted Reliefs in the real Cases of Necessity which are derived from Accidents or real Causes, such as hard Times, Want of Work, Sickiness, or personal Hurt, or from the natural Incapacity of old Age for Labour. In all of these, or similar Cases, fit Assistance is their Due; but then it must be considered as no less the Due of the Public, not to be exposed to such Burthens from Indulgence in the Vices above-mentioned, which should not be suffered with Impunity, because how much soever Liberty may intitle Individuals wantonly to make themselves miserable, it cannot intitle them to inflict Punishments on others, which in Fact will prove the Case, when, in Consequence of their own Vices, others become compelled to maintain them; and so far as Parish Taxes operate to this End, they ought to be considered as public Evils.

A Man who wilfully loses a Day's Pay from Idleness, and at the same spends that of another in Intemperance, is therein doubly deficient in his Duty to the Public, as well as to himself or Family, and by the Laws of the Land he is punishable for both Offences. But of what Use are Laws if they are not duly executed? which is unhappily the Case. Herein then lies a principal Cause of the Excess of Parish Taxes; and, what is still a worse Evil, the great Loss to the State of so much useful Labour.

Observation should convince us the Maxim is false, *That Men will not labour but from pressing Necessity*, because we do see they will be industrious for the Comforts of Life, as well as for getting forward in it; while there are others who, for Indulgence of Vice and Idleness, will suffer all Kinds of Wretchedness. Encouragements should therefore be given to Well-doing, and Temptations to ill Conduct should as much as possible be removed; but if with these Precautions the latter is still pursued, then Punishments become necessary, and should rigidly be administered.

That there are, however, Workmen of all Kinds who do avowedly neglect their Labour, to the Disappointment of their Masters and the Injury of the Public, and also indulge themselves in Drunkenness, on the Plea of Parish Obligation to provide for them and their Families, are Facts notorious, because frequent, and may serve to account in one Way for the common Observation, that in no other Country there are such public and private Reliefs for the Poor as in this, and yet in no other does there appear so much and so great Wretchedness. But these however are not all the Causes, for there are three others that equally operate, which are these; a defective or corrupt Police, Abuses in Parish Management, and too many Temptations to Indulgences of Dissipation.

It is a melancholy Consideration, that the Duties on Strong Beer and Spirits are made such Objects of high Consideration, as to make the very Encouragement of Drunkenness almost a political Virtue; and it is equally such, that the very Magisterial Office has often been made the Means of countenancing, for Self-Interest, the most infamous Houses and profligate Practices, which was corrupting the Stream of public Manners, it may be said, at its very Source.

Nor is it less to be lamented, that a Turn to the most trifling Dissipations in the higher Orders of Parishioners has thrown all Parish Duties into the Hands of those who are least qualified for, or ought least to be trusted with, the Execution of them. Hence do we see, in too many Parishes, increased Rates to no good Purpose, from a Game in Dealings being played by Parish-Officers into the Hands of one another, and with great Waste in extravagant Expences, while the Poor are farmed out to those whose Interest it naturally becomes to make the most of them that is possible, which makes unhappy Wretches rather hazard perishing in the Streets, as Vagrants and Beggars, than submit to the Sufferings experienced in Workhouses, of which we may be able to frame some just Ideas from what the Public has lately been informed, of the Destruction of Infants under Parish Care; and while the inferior Parish-Officers, or Servants, are seen so negligent in their Duty, from the numberless Nuisances which appear every where in the Streets, even to unremoved Shoals of Beggars; and, as must be supposed, the Protection, for Considerations, of the most open and abandoned Profligacy.

These, with the numberless Temptations to Idleness and Dissipation of every Kind, and the Trade of Justiceship in all its Branches, are what serve to fill the Kingdom with every Species of Folly, Vice, Iniquity, and Wretchedness, to the making it what may be truly called such an *Augean* Stable as requires *Herculean* Labour to cleanse; but which Work must soon

soon be set about, or it will really be found impracticable. Perfect Order, we well know, it is impossible to preserve; but an entire Relaxation of Principle and Discipline, from the Introduction of corrupt Practices, must tend to the Production of every Thing that is ruinous; for when it becomes the general Practice to act from the Maxim of *the Devil take the hindmost*, it cannot be long before all will really go in a certain Way.

P U B L I C O L A.

L E T T E R XIII.

IT will hardly be supposed I can possibly want Information, that most of the Regulations now mentioned concerning Masters and Workmen have for a long Time been made, and still are in Force, though their being so avails little; for of what Importance are Regulations if not duly observed? They may be as well abrogated as not executed. On the perfecting of those Laws, therefore, and the effectual Enforcement of their due Execution, must depend the Removal of the various Abuses in Dealings in the Necessaries of Life, which so greatly oppresses the Poor, and injure every other Order of People; as also the Prevention of Idleness and the Suppression of Vice, (but particularly that of Intemperance) which are so corruptive of Manners, so destructive of Order, and in their Effects serve so much to burthen Parishes, deprive the State of the Advantages of useful Labour, fill the Streets and Roads with Plunderers of every Kind, croud Prisons with Debtors, Bridewells with Miscreants, the whole Kingdom with Vagrants and Beggars, and make the yearly Numbers of our Felons so much exceed those of any other Nation, nay, possibly greater than of all the rest of *Europe* together.

It is an old Observation, that Laws of Policy will in a great Degree prove useless, unless they are so framed as to execute themselves; which, with regard to most Matters, in a great Degree, it should be thought, they might be made to do. But were that to be found impracticable, surely the instituting of a general Board for superintending the Execution of the Police of *South-Britain*, (for in *Scotland* it does not appear to be wanted) to act under the yearly Inspection of Parliament, as well as constantly under that of Government, and with due Care taken for keeping it active and uncorrupt, might be made to operate effectually for so important a Purpose.

The

The Turn of the Public Mind, and the Effects thereof, are likewise Matters deserving of the highest Attention, because thereon the Principles and Manners, the Virtues and Vices of a People, will ever greatly depend. The late ingenious Mr. *Henry Fielding*, in one of his Works, characterized the Turn of the Age, with Propriety, by the Epithet TRIFLING, as the late Lord *Bolingbroke* did in *stronger Terms* to the same Effect. A more contemptible Character no People can acquire. It is what we have disgraced ourselves with by our too free Intercourses with the *French*; a People who owe to their futile Versatility, Levity of Temper, and strong Attention to Trifles, (of which the Great *Montesquieu* and all their best Writers accuse them) the Loss of their Freedom, and their Inability to recover or maintain it. How far the reproachful Character of the Times, which has been mentioned, continues to be deserved, may be determined by a Survey of the most splendid Routs, Assemblies, and all other Kinds of Meetings, down to the numberless sauntering Rendezvouses for Dissipation that are in and about the Metropolis, as well as scattered throughout the Kingdom; the Operas, and Practice of going to them, which latter is evidently for Fashion, and not from Taste for Music; the State of the Play-Houses, and the Entertainments which they furnish; the ceaseless Business of the Gaming-Table; the prevailing Taste for Reading, as also for Dress, and the frequent Summer Jaunts of the lower Orders of People, through Dust, into the Country, and Extravagance.

These are all Circumstances of Taste that exemplify the Turn of the Times, which is strong to Trifling and Dissipation; while for Means to indulge in which, every Species of Fraud, Rapine, and Knavery is become practised. Solid Happiness is neglected for Indulgence in unsatisfactory Pleasures, the strong Pursuits of which leave no Leisure to Men for the Discharge of those public Duties that, in one Kind or another, are due from all to the Community.

Parishes and the Public at large, from the Generality of Practice, might have been, and doubtless often was, greatly benefited by the Tavern Meetings of a Neighbourhood of Men to converse, because they naturally introduced such Topics of Discourse as were interesting to them in common; from whence Nuisances and Abuses became removed, and Order in many Points maintained; but no Advantage results from Tavern-Music, Dancing, and Card-Meetings, which are still more expensive; and if in the latter there is more Sobriety, there is also more of the over-balancing Qualities towards Evil, of Levity and Trifling, which, as Passions, are debasing, especially in Stations and at Ages in which the serious Turn is becoming, and must be requisite. Nor can frequent public Intercourses of both Sexes tend to
create

create domestic or any Kind of solid Happiness, while they greatly weaken common Security. It would be unreasonable to suppose that the Quakers are not as happy as they are an orderly, and in general are seen to be, a prosperous People; and that they do better discharge their public as well as private Duties, is certainly a Reproach to others who so highly neglect both.

Things are off their true Bias, when national Folly makes the Contriver of any Scene of Dissipation (a Cause of Abuse and Waste of Time, which are injurious to a State) a more prosperous Man than the Merchant, who employs a Fortune, and sedulously exerts his Talents in a Trade that finds Employment for Numbers, and returns great Wealth to his Country; when a Fiddler is carested as a Person of high Merit, and an ingenious useful Artist is looked upon as a contemptible Fellow; when the Incomes of Players, of but moderate Abilities, are made to exceed those of Admirals and Generals, and those of their Patented Superiors are seen to surpass the Appointments of Ambassadors, or Great Officers of State; and while Mummers, Buffoons, Masters of useless Dexterity, or Pimps to the filliest of Pastimes, are not only made wealthy, but also the Object of Admiration; while the Possessors of real Knowledge, and the Professors of useful Science, are neglected or over-looked; and the brave Land and Sea Officers, whether maimed or sound, who had fought their Country's Battles, and acquired it great and valuable Possessions, are forced to sculk into Penury, neglected and in Obscurity, as Men undeserving of Reward or Commiseration.

These will be ever striking Examples of the Degeneracy of Times, and Instances of what Clamour for Correction, for the Honour, as well as Security, of a State and People.

PUBLICOLA.

L E T T E R XIV.

HOW far an essential or thorough Reform in our national Police may contribute, with good Example and some other assistant Means, to give a new Turn to the Public Mind concerning such and similar Points as were touched on in my last Letter, as well as to correct such Abuses in Practice of various Kinds as have been disturbing the Peace and destroying the great Interests of the Kingdom, there is no pretending to say, however greatly to be wished; but as the cleansing of the *Augean* Stable, or removing the Filth of evil and corrupt Practices, has been an Undertaking,

taking long thought highly needful, and pretended to be engaged in by those who successively assumed the Character of Patriots, it may now, it should be hoped, be expected to be set seriously about, because recent Transactions so serve effectually to demonstrate the Necessity of its being done.

Pass we now to the Consideration of other Political Evils that are deserving of the highest Attention; among which is the Drain of Wealth that continues open from this Kingdom to another, which is our natural Rival and Enemy, from Causes the most pernicious, and to the Amount of double more than we gain by our Commerce with all the rest of *Europe*.

This immense Drain of our vital Powers is to *France*, and flows thro' two Channels; namely, the Smugglers of both Kingdoms, and our Ramblers into that Country.

By the Estimates that have been made, on the best Authorities, this Kingdom has not for many Years paid less than a Million for the Trade that is carried on by native Smugglers, of which at least Half must be supposed to go to *France*; and when it is considered that there is hardly an actual resident *French* Subject in this Kingdom who is not concerned in Smuggling, and what Numbers there are of them, besides, who are continually passing backwards and forwards between the two Kingdoms, all employed in the same Trade, it must be reasonable to suppose they likewise drain us of an annual large Sum; to which if we add the great Smuggling which is known to be carried on between *Scotland*, *Ireland*, and that Kingdom, it must be greatly under-estimating the whole Balance *France* so gains, by computing it at a Million in Money, besides the Wooll that is carried to that Kingdom from *Great-Britain* and *Ireland*, which is an Article still more disadvantageous to us than Gold: And if we add to these the excessive Sums that are drawn from us to be expended by our Travellers in that Kingdom, it can hardly be supposed that the whole usual Balance we have paid in Money to *France* was less than two Millions Sterling, which express Sum has by many been reckoned about the Profits so made of us, exclusive of our Wooll.

This, therefore, is an Object that should be deemed highly deserving of the most serious Attention; for with all the Restrictions that have been lately contrived, and all the Diligence that has been used to check Smuggling, there can be no Doubt entertained that the Drain on this Kingdom by illicit Trade, and from the fashionable Phrenzy which sends People to *France*, is still, and will continue, enormous, unless farther Means are used to lessen it by every possible Method.

A Capitation Tax on all trading Foreigners in this Kingdom (except Merchants actually settled in Houses of Business, and such as pay the Alien Duties) as has lately been talked of, will undoubtedly be a wise Measure, and was it even to be extended to all in other Employments, except Manufacturing, it might prove still more effectual. Nor should it be thought unreasonable for a Tax to be laid on all *British* Subjects going out of the Kingdom to *France* or the *Low Countries*, Merchants and Mariners excepted, having Certificates of being such; for nothing can be more reasonable than to make People pay to the State for indulging themselves in what is injurious to it.

Great must be the Prejudice done to the State by suffering a temporary Residence of Foreigners in this Kingdom, in any Kinds of Business that interferes with the Employments of Natives, because they not only drain the Kingdom, in the End, of the Fruits of their Labour, but also, by standing in the Way of Natives, obstruct national Population. Every Acquisition of useful People, especially with new or improved Arts, if they come over actually to settle and incorporate with us, is undoubtedly beneficial; but Comers and Goers, or mere transitory Residents, must be as greatly prejudicial, and therefore ought to be discouraged.

But still more injurious, as well as highly disgraceful, is the Practice of condescending to adopt the Taste, and borrow the Fashions, of a rival Country in Manufacturing and Trade, because it is a great Self-letting-down in the Eyes of all *Europe*, from such acknowledged Superiority therein. Many superior Arts to those of *France*, in the Opinions of all Nations, have we sacrificed by this Folly; which nothing can cure but the Prevalence of Sense and Virtue, to which, in a national Sense, we seem to pay too little Regard. It cannot be for our Dignity or Interest to copy them in any such Art; but it surely is to rival them in all; and therefore Pity it should be thought that our very Ladies want the Spirit to set a right Value on their own Taste and Importance, or shew less patriot Regard than *Frenchmen* do for the great Interests of their Country. But the contrary is a national Infatuation almost peculiar to ourselves, and of infinite Disgrace and Disadvantage to the Kingdom, which we may wisely shake off, as dishonourable to retain.

PUBLICOLA.

C c.

LETTER

L E T T E R XV.

AMONG the fatal Errors of Policy which have for a long Time prevailed in this Kingdom, no one has been so absurd as that of thinking it was for our Advantage to borrow Money of Foreigners on the Mortgage to them of all Property and Labour in the Kingdom, and with the burthening of both with Taxes, or the Payment of Interest.

There may indeed have been critical Times, in which the Exigencies of Affairs might have authorized such Measures from Necessity, and no other Plea could warrant them. But those Times of Difficulty got over, it should have been made the unremitting Care of Government to have got rid of those Burthens, as well to prevent such a Drain of Money from us as the annual Interest amounted to, as to secure future State-Measures from becoming embarrassed by other Powers, from the Influence they might therefrom acquire on our national Credit, upon which the Means for, and Success of extraordinary Operations must always chiefly depend.

But however public Opinion may have erred in these Matters, it should be considered as unreasonable to suppose that Ministers could want the Understanding to judge rightly thereof, as they must be qualified for comparing public with private Concerns in similar Cases, and such as they could not but be familiar with, of which the following is most obvious; the different Conditions of one Man who has Mortgages on all his Neighbours Estates, and of another on whose Estate all his Neighbours have Mortgages; one being consequently in great Affluence and Power, and the other, on the contrary, in Penury, Difficulties, and an almost helpless and defenceless Condition.

This Comparison holds equally with respect to States and Individuals; therefore we ought not to assign to a Want of Knowledge in Ministers, what can only rationally be attributed to a Want of honesty in them. Necessity might have constrained the State to run in Debt to whoever could supply it with Money in a Time of War or Distress, but no satisfactory Apology can be made for neglecting to use every possible Means for the Discharge of those Debts in the succeeding Times of Peace, and more especially such Parts of them as we owed to Foreigners, as well for increasing our Resources in future, by shutting up a continual Drain of Wealth from us, as for freeing ourselves from the Influence of Creditors, which they might employ to our Embarrassment.

Statesmen could not possibly be so ignorant as not to perceive the wide Difference between being great Creditors or Debtors to other Nations, or between a trading Kingdom's being burthened with grievous Taxes to pay
Interest

Interest to Foreigners, or being only lightly taxed for the Support of Government, while overflowing with solid circulating Wealth, and at the same Time having Tides of Riches continually flowing in, not only from a flourishing Trade, which is the sure Consequence of cheap Labour and Living, but also for Interest of large Loans to other Countries, which the respective People of them would be toiling and trading under every Disadvantage to pay; I say, it must be impossible for Statesmen not to be sensible of such a Difference in Situations, and therefore a contrary Conduct was certainly more imputable to Guilt in them than Ignorance; yet such were the opposite Schemes of Policy in a *Burleigh* and a *Walpole*, that of the former being straight and honest, that of the latter crooked and iniquitous.

The Author of a Work, lately published, has suggested, that the great Object of all Administrations, for a long Time past, has been their own Interest, which evidently tallies with the Opinions now delivered concerning the Wisdom of public Measures. Indeed *Colley Cibber*, of facetious Memory, did indirectly justify all Administrations from the Revolution to near the End of his own Life, by saying the People had found Fault with them all, *ergo*, (as we must suppose he conceived) the People must have been always in the Wrong, because, as he observed, all Ministers could not have been so; and there are Abundance of Politicians now who we are continually hearing deliver the same Opinion, for Reasons that they themselves must be supposed to know best. But some few Men may perhaps think that honest *Colley* understood much more of the Affairs of the Stage than he did of those of the State; or as his own Theatrical Administration was often greatly objected to, and to be sure he thought without Reason, it may be supposed he judged of public Opinion with regard to Ministers as he did with respect to himself, and consequently concluded it must always be wrong when Disapprobation was expressed; and we may farther suppose, that Mr. G-----k and the most selfish or hated Statesman of later Times have been exactly of the same Opinion on all Occurrences of such a Kind.

In the Degrees of Censure, however, we may discriminate Men, and candidly allow, that although all may have been faulty, yet such they have been in very different Degrees. We know that neither Wisdom or Virtue is perfect in human Beings. But the Trial of our present supposed Premier is yet to be made in Times of Peace; and it is to the Credit of his Colleagues that they have not yet been unpopular; so that it may at least be hoped they will, in these Matters, act on better Systems than their Predecessors.

It is the Design of this Letter to shew that the true Policy, and of Course the true Interest of this Kingdom, has in general, for many Years past, been either not rightly understood, or not honestly pursued, and that much of public Opinion thereon has been likewise erroneous, from supposing that it was for our national Good rather to be Debtors than Creditors to foreign Nations, and acting accordingly. But there are other Lights in which these Objects may require to be set; not, as it is to be hoped, for the Information of Statesmen, but others, which I shall accordingly next proceed to do.

PUBLICOLA.

L E T T E R XVI.

HAVING shewn that this Kingdom must suffer by an open Drain of Money from it, to pay the Interest due to Foreigners for a great Quantity of our national Funds, the Taxes for doing which must always unhappily affect our Trade, and that their possessing so much of the funded Debts of this Kingdom naturally gives them such an Influence as they may occasionally employ to our Prejudice, by so wounding our public Credit as to embarrass us in the raising of Supplies to Government, I shall next point out the obvious Means which it furnishes, to the *Dutch* especially, of extending that Drain of Wealth from us by the Practice of Stock-jobbing, which in our Stocks is become almost as common in *Holland* as in *England*.

We all know the chief of *Dutch* Property is of the trading and monied Kinds, and that their Country is not only the Centre of political Negotiations, but also of commercial Exchanges. The principal Merchants at *Amsterdam* have great Influence in the State of that Country, as great Connections with foreign Countries, nay, even with some foreign Courts, and have also immense Sums of Money ready at their Disposal for any Kinds of promising Engagements. These are all Circumstances which give them very great Advantages in speculative Stock-jobbing and actual Dealings in *British* Funds, as well as in the Money and Exchange Transactions of this Kingdom, all of which Kinds of Dealings are, and must be, in a considerable Degree dependent on one another. The Extent of their speculative Dealings, on both Sides of the Water, in our Funds, is known to be very great, as well as the close Connections which there are between many of the great Stock-jobbers of either Country.

From

From the Circumstances which have been mentioned, it may naturally be supposed that the great Stock-jobbers of *Holland* are in general more in the real Secret of Affairs, or, in other Words, have earlier and surer Intelligence of what is meditating, or resolved on, in State Cabinets, than the Generality or even best-informed Stock-jobbers of *England*, and therefore engage in such Transactions with infinite Advantage over those of our own Country who are not connected with them, besides the consequent collateral ones which they often make, in their *Agios* and Exchanges; the former being entirely in their own Hands to raise and fall at Pleasure, and the latter abundantly more under their Influence than our own.

Beheld in these Lights, foreign Property and Transactions in our Funds must be considered as extremely pernicious; for they are made a soaking Sponge of the vital Moisture of our Body Politic, which Foreigners are continually squeezing out, to their own infinite Advantage, who fatten on the invigorating Powers which they so drain away, and leave us in Want of.

If there have been political Managers so half-informed or short-sighted as not to see to what Lengths the Operations extended of such a national Evil, their Ignorance has proved highly unfortunate to their Country; and was exactly of a Piece with that of a young Prodigal, with regard to his Inheritance, whose sole Attention is bestowed on the Means of raising Money, without heeding Consequences from Disadvantage, Waste, or Depredation; and so goes on suffering in every Way, till he becomes in a Condition to raise no more, either for Profusion or Subsistence, and then finds himself in such a State as is alike helpless and hopeless.

We hear frequently (to use the Stile of the Place) of lame Ducks waddling out of the Alley, that is, becoming Bankrupts, by which they involve all those in Losses or worse Misfortunes who have any Concerns with them; and we likewise hear often of the great Losses and frequent Ruin of Men and their Families by Alley Transactions; much of the Plunder of all whom we, however, know is gained by Sharpers at home, and so far the Nation is no otherwise prejudiced than by the hurtful Encouragement which it gives to a Spirit of Gaming. But the very considerable Part which Natives so lose to the Agents of Foreigners here, or by their own Agents to them abroad, is so much real Loss to the Kingdom; and we may, with including all the collateral Circumstances which have been mentioned, suppose it to be very great, from the Advantages set forth, which they have over us, and of which there are some corroborating Appearances that may be of a Nature too delicate to mention.

Thus

Thus are we, in Effect, made a tributary People to other States, and also a Prey to them, from making them in too great a Degree our Creditors, by the Mortgages which we have so made to them of our Lands, Trade, and Labour; all of which together has been a Species of Policy exactly of a Piece with that of enabling them to eat our Provisions cheaper than we can do ourselves, and of Course to under-work us, by Means of immoderate Bounties which are paid out of the Pockets of the People, from whence come also the Taxes that pay them their vast Inheritances for Loans of Money, not borrowed to employ at home, but to expend in the Service of foreign States, on the Plea of supporting that political Bubble called the Balance of Power, with which we could have naturally the least to do, and which, if let alone by us, would have supported itself, because all States and Powers, when endangered, will be sure to exert themselves in Support of their own Independence; while *Britain*, from her happy neutral Situation, could always have consulted her own Interest, by securely and advantageously acting at all Times as Arbiters in such political Disputes as might arise in *Europe*.

For these too false Systems of Policy to us we were originally indebted to a *Dutch* King, whose glorious Character in all other Points I most highly revere, with Acknowledgements of the great Services which he did to this Kingdom: But, as a good *Dutchman*, he hated *France* and loved his native Country; and therefore I consider the Fruits of his Hatred or Affection to have been owing less to his Fault than our Misfortune, from his not being born among us. Nor indeed can it be supposed that he foresaw the Extent of those Evils which future weak or wicked Policy has brought upon us from pursuing his Measures, though for serving other and worse Purposes than were ever thought of by him.

PUBLICOLA.

L E T T E R XVII.

DEBTORS may with Propriety be considered as the Slaves of their Creditors; for in private Life the latter can, and often do, impose what injurious Conditions they please on the former for Forbearance only, and have it in their Power likewise to deprive them of their Liberty, and in Consequence thereof to punish them with the suffering of extreme Misery.

This,

This, however, cannot be the Case with Respect to States in such Matters; but in another Way the Creditor State may become the Task-Master of the Debtor, by Means of the Necessities and Misfortunes of the latter; and Forbearance in such Cases is never to be expected, for States always act by one another, not from generous Friendship, but mere selfish Policy.

Suppose we had continued as unsuccessful in the late War as we were at the Beginning of it, what must have been the Consequences but our Submission to borrow Money of other Nations on such Terms as they might prescribe, and also, by the falling of our Stocks at home, to enable them to purchase our Property of that Kind for less than half its real Value? As Things were, *Three per Cents.* at one Time were considerably under Seventy, and had the War continued unprosperous they would probably have been under Forty. On what advantageous Conditions then would Foreigners have proceeded in engrossing the Produce of our old Taxes, by purchasing those Funds to the Proprietorship of which they were mortgaged; and also the Produce of new Taxes, upon equally hard Terms, for fresh Loans? What might have been the Case then may become the Case hereafter in a new War, and probably in a worse Degree, from the so great Increase of our Burthens, if in the intermediate Times of Peace every possible Power of the Nation is not to the utmost exerted for effecting a considerable Discharge of our public Debts.

But in the Degree we are at present Debtors to foreign Nations, we are, in Fact, no better than Slaves in a political Sense; for we are all toiling, pinching, or contributing to pay those Dues which enrich them and impoverish ourselves. Remitted Taxes is therefore become no longer an Object to us as a People, but the Reduction of our Debts, as on which latter Measure all Property, Prosperity, and even Safety, must depend.

Subjects may have no Recourse against Government in Case of a national Bankruptcy, which, in the Nature of Things, may happen from Misfortune; but other States have, and will doubtless apply it, by making Reprizals of such Property as they may find within their Power to seize, and will moreover promote their own farther Interest by augmenting the Embroils and Distresses that may thereon be occasioned to us at home.

Or can any great or rich People here suppose their Property will then be secure, or the Duration of their Splendor? Alas, Necessity overbears Law, and the Might of the Many will overcome the Right of the Few; so that no one can pretend to foresee the Issue of such Scenes of Confusion as will naturally then happen.

But

But should no Tumults prove consequent, the Loss of Income to Stockholders at home would naturally diminish Trade and Manufactures, obstruct Circulation, destroy private Credit, immensely augment Parish Burthens, diminish all Taxes, lower the Value of Lands and their Products, fill the whole Kingdom with Distress and the State with Debility, probably occasion the Loss of our Colonies and foreign Trade, cause immediate Depopulation, and so accomplish public Ruin.

With but the smallest Hazard of such Evils, can there be a single Alternative to balance in the Minds of Statesmen or the Public, concerning the great Object of national Policy? which must be the Discharge of public Debts; for in the Dangers and Mischiefs which they are big with, all Interests and Properties must certainly become involved, and those *most* which are *greatest*. Every Nerve of the State should then be strained, and every Power of it exerted to the utmost, for so salutary an End; therefore to talk of easing the Land-Tax in order to uphold Luxury, with such a Load on the Public Back, or to think of shifting any Part of it from the Shoulders of the Affluent or Profuse, upon theirs who are bending to the Earth under what they already sustain, would be proposing what must be as impossible as it would be cruel to effect. Then let Luxury, Vanity, and every Species of Extravagance become lessened, as they ought to be, in order to procure public as well as private Relief. Taxes may be necessarily altered, but they ought not to be lessened till the State becomes considerably eased of its Debts; nor should any View be entertained of diminishing public Interest below *Three per Cent.* because the doing of it would probably in many Ways prove injurious to the Public.

Never was there a Plea so ill founded as that for reducing the additional Land-Tax, while all the other additional Taxes are continued; because the Rents and Value of Lands have been doubling, while that of Labour has been proportionally lessening from the increased Prices of Provisions, which have so raised Landed Property. Never, therefore, was there an Outcry so ill founded, and of Course so highly despicable, as that of the Hardships of the Landed Interest from the additional Land-Tax, because if it is doubled since the first laying of it on, their Rents have become doubled too; so that in general they pay now but in Proportion to the Taxation that was then, especially if the Advantages of improved Husbandry and Lands be added to increased Rents; and yet they have the Conscience to aim at throwing a Burthen, which to themselves is so very light, upon overloaded and sinking Trade, and distressed Labour of every Kind.

✓
f

No, it is, of the new Taxes, the last which ought to be taken off; the Prosperity, Safety, and Peace of the Kingdom, all requiring that it should be so, unless they will submit to an Equality of Rate, which Justice, Honour, and public Welfare do all make highly requisite. By an equitable Rate the Tax will undoubtedly become reduced to a Third or Fourth of what it now is, for producing the same Sum; and who then can have the Confidence to say that it is an unreasonable or grievous Burthen? But if they will not consent to so just a Measure, then it ought to be kept up, as an essential and necessary Means for diminishing a Debt that is every Way hurtful and dangerous, and indeed to no Interest more than that of Land-Owners, as they would themselves become convinced, if they would but open their partial or narrow Minds for the Reception of right Convictions.

P U B L I C O L A.

L E T T E R XVIII.

NEXT to the crying Evils of making us a Prey, as well as a tributary People to other Nations, and causing our Trade to sink under the Burthens laid upon it, the National Debt is also highly pernicious in filling the Kingdom, and particularly the Metropolis, with idle and useless People, and also in keeping from Commerce those great Capitals which either lay dead in the Funds, and are a Burthen to the State, or else are employed in the Dealings, or rather Gaming of the Alley, which cannot but be considered as pernicious Applications of them.

All idle People are at best useless to a State, and therefore no one can have too few of them; and such People are not only useless, but generally of all others the most pernicious, from their evil Example to, and ill Effects on, Society. There cannot in Nature be a more idle Condition than that of a mere Stockholder, who has no other actual Business than to receive Half-yearly Dividends; which Employment of Time may be estimated at about an Hour in a Year. The rest of their whole Lives is devoted to Pleasure; which being of a satiating Nature, and far wide from true Happiness, much Care becomes necessary to them for the killing of Time, which is commonly spent in trifling Amusements, or Indulgences in Vice; to the former of which we owe all the abounding Resorts of Folly that too greatly seduce better Kinds of People to the mis-spending of Time, or create in them Impatience under the Discharge of their social Duties, and therefore they are therein with Propriety to be considered of evil Example as well as Practice.

In Propotion likewise to the Degrees of such pernicious Property in Individuals are the Degrees of their Vices of every Kind, and particularly that of Gaming, which is now become so fashionable in a Variety of Ways, but particularly at the Card-Tables, it being there made the real Business of Thousands; and from which very few receive any Kind of Benefit, but Thousands are made miserable and unhappy. Were the Evils, however, confined to these useless Orders of People, as they are all of their own seeking, it would be a Matter of no real Concern to the Community: But better Members of Society, those whose Time could have beneficial Applications, are drawn in by Fashion and Example to misuse it in the same Way, to the Injury, and often Ruin, of themselves, their Families, and too frequently many others; as well as to the essential Prejudice of the Kingdom, which has, like themselves, a high Interest to be promoted in a right Application of their Time.

Immense likewise, in other Ways, are the Prejudices done to the State by the prevailing national Propensity to such trifling or hurtful Pleasures, as have been introduced and are chiefly supported by the Possessors of such Property; and in none more than the narrow Passion with which Parents have become inspired, for securing to their Offspring some Kind of secure Independency for the Enjoyment of pleasurable and useless Life. Hence has Attention to mere Security too generally limited Education to the Enjoyment of an Income, whether small or considerable, which Parents will not, and Children are instructed not to put to the Hazards to which busy and useful Life are and must be exposed; from which weak, narrow, and hurtful Turn of Mind, has in one great Degree been derived the public Evil so loudly complained of, *viz.* A prevailing State of Celibacy in both Sexes; Children being educated only for the Enjoyment of the Fortunes they are to possess or inherit, rather than for the great Ends of Creation and Society; so that the natural Views to Posterity are become too greatly cut off, each Individual being taught to make Self-enjoyment the chief Object even in connubial Views and Stipulations; in which more Regard is had to the full Enjoyment of what is really in Possession, and individual Security therein, than to any probable Improvements of it that can be made with but the least attending Risks, and on the more enlarged Views of a Progeny made prosperous by such Means as are of most Utility to the State.

From this narrow and fatal Bias, which has become fixed on the human Mind, from the Facility there is of making limited Provisions in the Funds (supported by such public Burthens as our great national Interests are sinking under) we see all Kinds of public and private Scenes of Diffi-
pation

pation hourly increafing and crouded, and generally in a great Degree by People in fingle, or at beft in ufelefs Life; while Trade and Population are declining apace, honeft Induftry becoming difpirited, and wretched Poverty growing desperate. But what is ftill more amazing, we have been valuing ourfelves on the Policy which has produced all thefe Evils, and boasting of thofe Refinements in Luxury and Folly that are hurrying us into Ruin.

There is no Man of found Knowledge can hesitate to pronounce, that the Kingdom would become greatly benefited by the Extermination of all the Stockholders in the Kingdom, if thereby the public Burthens, upon which they fubfift, could become effectually annihilated with them. The honourable Difcharge of them to the laft Farthing, therefore, fhould be the fixed Object of the State, as well for the common Prosperity as Safety. Our national Debts ferve alike to expofe us to be preyed upon by foreign Harpies, and at home to labour and fuffer for the fattening of pernicious Locufte, and the fubfifting of ufelefs Drones; who, but for fuch mifchievous Means for proving hurtful, would of Neceffity fo employ themfelves, and perhaps others, for individual Advantage, as to prove highly beneficial to the Community. Thus, by the happy Exchange of Idlenefs, Vice, and Folly, for induftrious Application, Virtue, and Utility, we might enfure public Safety, and increafe national Prosperity to an inconceivable Degree.

The good Effects which the Difcharge of our public Debts would have on our national Commerce, will be the next Subject of Confideration.

PUBLICOLA.

L E T T E R XIX.

WERE there no Means of locking up the Capitals which are continually acquiring by Individuals, in what, in a national Senfe, are * *mifcalled* the Public Funds, or of employing them in the hurtful, nay, often iniquitous Practice of Stock-jobbing or Alley-gaming, they would of Neceffity become fo much better employed, as Utility is above Mifchief, that is, in commercial Purfuits, which in their Natures muft be illimitable; or elfe of taking Mortgages on the Property, Trade, and Labour of other Nations, and therein happily to reverse a Practice which has become fo baneful to ourfelves.

D d 2

The

* It is Nonfenfe and Absurdity in Terms to call Public Debts Public Funds, becaufe the Word Fund means a Capital in actual Employment, or ready for Application; but our State Funds, as they are erroneoufly called, are no other than Debts formed for Loans that to us are annihilated, and therefore they are no Stocks of real national Property, but only of Debts.

The Resources for extending Commerce are inexhaustible, if sought after by People of great Property, as was heretofore the Case during the Infancy and Progress of our foreign Trade, till it reached its Meridian, which (our Colony Trade excepted, that naturally has increased with the Population of those Countries, and, with the Exercise of right Policy, will proportionally continue so to do) was early in the present Century: Since which Time it has generally been on the Decline, occasioned chiefly by the Men of most monied Property quitting the real commercial Province for Money Dealings at home, which they found to be attended with less Trouble, and, if they had Skill and Interest, with less Hazard and more Profit.

But however indulgent or advantageous to Individuals this Change of Pursuits, or Practice, may have been, it has certainly proved directly otherwise to the Nation, which has thereby lost the infinite Advantages which would have accrued to the general Community from the Employment of such Fortunes in Trade and Commerce, and the constantly increasing Skill and Experience of its Possessors.

In the mean Time most Branches of our foreign Trade have got into wrong Channels, and even injurious Hands, who have debased the Qualities of our Manufactures, and introduced all Kinds of Frauds in their Fabrication and even Measurement, which have been owing to so many little Dealers interfering with our Trade in such Kinds of Exports, either as trifling Adventurers in Branches of Commerce that require great Capitals to insure Credit to our Goods, and solid Advantages to the Kingdom, or else such little Factors or Commission Hunters as have filled *Europe* with their Riders to hawk for Orders from they know not whom, and from whose random Credit, given to those who are no better than themselves, the Kingdom is continually suffering in its commercial Reputation as well as Interest, as we may readily conclude, from the Numbers of such Merchants, as they call themselves, continually becoming Bankrupts, either from their Want of Solidity, or the proper Knowledge of Men, or of the Business in which they are so presumptuous as to engage.

While our Trade of Exports in Manufactures was carried on by such Merchants as, according to the antient Stile, might be called Princes, from the Affluence of their Fortunes and the Extent of their Engagements, the Manufactures of the Kingdom were kept in high Repute, and the Supplies to foreign Kingdoms were made regular, and upon the best Terms, as no Credit was taken from Fabricants or their Factors, which must always be disadvantageous to Trade as well as the Trader;
nor

nor were there of Course any of the Debasements of Qualities in Goods, or Frauds in Widths or Lengths of them, on any Pretence winked at or excused.

While the most beneficial Trade of the Kingdom continued in such Hands, it was always on a solid and improveable Footing; but when it fell into those of inferior Dealers it became precarious, and gradually diminished, while the Science of Commerce dwindled into the Art of the inferior Dealer; and now our foreign Trade of that Kind is too much got into such Hands as serve to manifest its being in the very last Stage of Existence, such Men as seldom carry their Views beyond the depending Transaction; from whose Management it is no otherwise to be rescued, than by restoring to practical Commerce those abundant Fortunes which are otherwise appropriated in Ways that are either burthensome or hurtful to the Community.

But on any considerable Reduction of the national Debt and Alley Business, great Capitals would be again thrown into Trade, and new Channels of Commerce opened, which there cannot want Means of doing. Then the subordinate Dealers would soon sink into their proper Ranks of Life again, and all Kinds of useful Employment, as consequently Population would become very much increased, and therewith the Prosperity and Power of the State.

It is amazing how the People of *Holland*, without natural Wealth of any Kind, by Industry and Application, benefit their Country as well as themselves. They properly class themselves as assiduous Labourers for individual and common Good, and by their personal Prosperity promote that of the State. With similar Conduct what might not this Kingdom become, abundantly as it is blest with all Kinds of natural Riches and every Bounty of Providence? The *Dutch* may truly be called a Hive of provident and industrious Bees. We have Numbers of the same Kinds; but mixed with them Swarms of useless Drones, preying Wasps, and destructive Hornets, all bent upon spoiling one another, those of more Merit, or the Public, sacrificing the very Advantages which, as a People, are peculiarly our own, and even perverting into Evils what were bestowed on us for the greatest of Benefits.

Blessings are naturally turned into Curses by Abuse; and such, by the Means of evil Policy, have become the Effects of our national Credit, which a sensible Writer said, some Time ago, must be ruined, or it would ruin the Kingdom; but the best Way must be to preserve it, and make it useless. Certain it is, our Policy therein has brought us into a perplexed and even perilous Situation, by making us the Debtors instead of the Creditors
of

of other Nations, by rendering the State poor and Individuals too rich, and by increafing the ufelefs and leffening the Numbers of ufeul People; all of which are fuch Evils as we can only get rid of by reverfing our former Conduct.

PUBLICOLA.

L E T T E R XX.

THERE was no Kind of bad Paſſion or Diſpoſition indulged, in the Representation which has been made of the preſent State of our Trade and Traders in exported Manufactures. That there are ſeveral Men of great Fortune and high Credit concerned in that Commerce upon their own Account, is well known; but ſuch is not the general Footing on which that moſt important Branch of our Commerce now ſtands, though it would be the only State of it that could infure Permanency or great Advantage to the Kingdom; that is, ſafe with reſpect to ſupporting the Credit of our Manufactures, and advantageous in ſecuring the due Returns for them to this Country.

Real Merchant Adventurers, in Succeſſion from the Days of *Greſham* and *Sutton* to thoſe of the preſent Time, have always had Houſes eſta- bliſhed, under their own Influence, in the ſeveral Countries in which our Manufactures were conſumed, which they kept regularly ſupplied as the Markets required; and they had a conſtant Interſt to ſupport in the Credit of thoſe Goods, which were always ſtampt with their own peculiar Marks. Such Traffic was by them ſcientifically and reputably proſecuted, and with ſuch Capitals employed therein as would admit of giving all re- quiſite Credits; ſo that they well knew who they dealt with, and what they were about. But ſuch can never be the Caſe with thoſe who ſend their Riders about the World to get Orders on Commiſſion, which they execute here upon the Credit which is given them by Manufacturers and Dealers, who are too often made Sufferers by the Temerity of ſuch un- bottomed Adventurers; of which Kinds we have great Numbers here, both of Natives and Foreigners, who are continually breaking by their raſh, injudicious, or ignorant Engagements, to the perſonal Injury of thoſe who truſt them, and to the continual Prejudice of the Kingdom, by fre- quent Exportations of its Merchandize, for which few or no Returns are ever made.

To ſuch unqualified and unſolid Interlopers in a Trade of ſuch extreme Importance has likewise been owing, as was mentioned before, the Intro-
duction

duction of many fraudulent Practices, such as have served to sink our trading and manufacturing Credit almost below that of any other Country, if not beyond Retrieval: All of which together may be considered as a great and complicated Evil, occasioned by the Misapplication of so much of the trading or monied Property of the Kingdom, to such Uses as have been every Way hurtful to the State.

Thus far by Way of enlarging on some of the Contents of my last Letter: And now let us more particularly consider how great the Benefits must prove to the Kingdom and every respective Interest in it, if we could free ourselves from those most pernicious Debts which we owe to Foreigners, restore that monied Property to Trade which has been sunk into mischievous Incumbrances, and, by the Accomplishment of both, get rid of those burthensome Taxes which so injuriously affect all better Kinds of Property as well as Labour, as also the best Trade of the Kingdom.

Considering the Load of Debt the Nation groans under, even after doubling some Taxes, increasing others, and laying on some new ones, and all in Time of Peace, which was never done before, it seems hard that the Landed Interest, Trade, and Manufactures should bear so large a Share of the Burden, a considerable Part whereof must fall upon the Poor in this Time of Dearth and Scarcity, as Salt, Soap, Candles, Leather, &c. of which a Mitigation would be a sensible Ease. But perhaps, on mature Deliberation, true Patriots and Lovers of their Country might excogitate other Assistances, that it might bring in a handsome yearly Sum, that it might be faithfully set aside by itself towards paying some Part of the Debt without oppressing the Poor; as all unnecessary Ramblers into foreign Countries to spend Money amongst our Enemies, to the strengthening them and weakening ourselves, and bringing home their Fashions, Dress, and Luxury, to be supported in a great Measure by Smuggling, to the diminishing our own Trade, and public Loss; and also a Tax upon all new Titles of Honour conferred by his Majesty; taking off all Pensions, Annuities, and Sinécures not paid out of the Civil List Money; and all Ministerial Places, Posts, and Commissions might be yearly discharged gratis by Rotation, and their Salaries put to the Payment of the Public Debt; nor new Officers made as the old die, but their Pay go to the Public Debt; or that the new ones have only Half-Pay during the Peace, and the other Half go to paying the Debt; and that during the Peace, if Places and Offices are permitted to be sold, Half of the Price shall go to paying the Debt, and not all into the superior Officer's Pocket; that no one Man should have two or three Places, and allowed Substitutes; and a Tax may be laid on every Pack of Hounds; and that all Pleasures and Diversions depending on Chance

or Lot be taxed at least one Half of the Bets, as Horse-Races, Cards, Dice, &c. and such other Taxes of the like Nature as the Wisdom of the Legislator think proper, be solely appropriated to the Payment of some Part of the national Debt, without expending any Part of the Batchelors Tax either to this Purpose or to the Uses of Government, but applied to the Support of Orphans (not Foundling) Hospital.

That there is no one Branch of our beneficial Commerce but what is capable of being greatly extended, and that many other new and important Channels of national Trade might be opened, are what no Man of true Intelligence can possibly doubt: That such buried Capitals therefore, if restored to individual Use, would be, in various Ways, employed to such very estimable Purposes, cannot rationally be doubted. Let us but figure then, in Imagination, the Spirit of Enterprize which would gradually take Birth for the Re-investiture of such Property as would in such Manner be restored to private Employment. Adventurers in the Alley would become Adventurers in commercial Undertakings of every Kind, and new trading Resources sought after, for the Employment of Fortunes which People would not suffer to lie dead on their Hands, in order to subsist themselves by the Consumption of the Principal. Thus idle People of Fortune would become turned into busy ones; and the good Use which they would so make of their own Time and Money, would furnish Employment and Subsistence to infinite greater Numbers of other valuable People, serve to increase Population and Navigation, with every eligible Branch of the Revenue, and contribute, of Course, greatly to the Aggrandizement of the State, in Power, Riches, and Influence.

Scenes of Dissipation and Folly might indeed diminish by such a Change, but Hives of Industry would become replenished and increased in restored and new-erected manufacturing Towns throughout the Kingdom; and the very best Undertaking would become engaged in for the good Employment of Money in facilitating every Kind of trading Inter-course between all Parts of the Island, in Favour of the general Commerce of the Kingdom, and particularly that on which all our national Power and Prosperity must ever depend, I mean its inestimable Trade of exported Manufactures.

From Time-Killers we should then become a Nation of Time-Improvers, and therein happier in ourselves, and more beneficial to the State. Instead of suffering our Wooll to supply foreign Manufactories, we should seek for That of other Countries, and ransack the whole Globe for every other Kind of raw Materials for the better furnishing of our own. Land
Owners

Owners would then experience the Error of that Policy which, for the Support of Exaction, occasions Depopulation, they would find the best-improved Value of their Estates to consist in an increased useful Population, and a more permanent Advantage in improved Ground-Rents would be experienced than from Bounties on Corn Exportations, which are so ruinous to the Kingdom.

Ideas like these would irradiate the Minds of Statesmen; and the vigorous Pursuits of such Measures as they would inspire, would soon give a real Glory to their Administration. They would by such Means insure to themselves the grateful Applause of their own, and the Admiration of all future Times: And sure the Blessings of Contemporaries, and the Praise of future Ages, should, with the grateful Sense of conscious Merit, be considered as the strongest Stimulations to Men of Virtue and Eminence to do their Country the noblest Services.

PUBLICOLA.

F. I. N. I. S.

